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## NOTIFICATION

The 6th November 2024

**No. 1285—OERC/RA/GEN. REG./41/2024**—In exercise of powers conferred under section 181 read with Section 61, 62 & 86 of the Electricity Act, 2003 (Act 36 of 2003) and all other powers enabling it in that behalf, the Odisha Electricity Regulatory Commission hereby makes the following Regulations, namely:

### CHAPTER - 1

#### PRELIMINARY

#### 1. SHORT TITLE AND COMMENCEMENT

- (1) These Regulations shall be called “Odisha Electricity Regulatory Commission (Terms and Conditions for Determination of Generation Tariff) Regulations, 2024”.
- (2) These Regulations shall be applicable in the State of Odisha.
- (3) The Commission in specifying these Regulations shall be guided by the principles contained in Sections 61 and 62 of the Act to encourage competition, efficiency, economical use of resources, good performance and optimum investments.

- (4) These Regulations shall be effective from 01.04.2024 and unless reviewed earlier or extended by the Commission, shall remain in force till 31.03.2029.

## 2. SCOPE AND EXTENT OF APPLICATION

- (1) These Regulations shall be applicable to all existing and future Generating Stations or unit thereof where tariff is required to be determined by the Commission under the Act and relevant Regulations & Orders of Odisha Electricity Regulatory Commission.
- (2) These Regulations shall not be applicable for
- (a) Generating station(s) whose tariff has been determined through tariff based competitive bidding or by Central Electricity Regulatory Commission.
  - (b) Generating stations based on renewable sources of energy whose tariff is determined in accordance with relevant Regulations & Orders of Odisha Electricity Regulatory Commission.
  - (c) Generating stations whose tariff has been determined in accordance with an approved Power Purchase Agreement (PPA) for the period as agreed by Generating Company and beneficiary(ies).

## 3. DEFINITIONS AND INTERPRETATION

- (1) In these Regulations, unless the context otherwise requires-
- (a) “**Act**” means the Electricity Act, 2003 (36 of 2003);
  - (b) “**Additional Capital Expenditure**” means the capital expenditure incurred or projected to be incurred, after the date of commercial operation of the project by the Generating Company in accordance with the provisions of these Regulations;
  - (c) “**Additional Capitalisation**” means the additional capital expenditure admitted by the Commission after prudence check, in accordance with these Regulations;
  - (d) “**Admitted capital cost**” means the capital cost which has been allowed by the Commission for servicing through tariff after due prudence check in accordance with the relevant tariff Regulations;
  - (e) “**Auxiliary Energy Consumption**” or “**AUX**” in relation to a period in case of a generating station means the quantum of energy consumed by auxiliary equipment of the generating station such as the equipment being used for the purpose of operating plant and machinery including switchyard of the generating station, and transformer losses within the generating station, expressed as a percentage of the sum of gross energy generated at the generator terminals of all the units of the generating station;

Provided that auxiliary energy consumption shall not include energy consumed for supply of power to housing colony and other facilities at the

generating station and the power consumed for construction works at the generating station and integrated coal mine;

Provided further that auxiliary energy consumption for compliance with revised emission standards, sewage treatment plant and external coal handling plant (jetty and associated infrastructure) shall be considered separately for the purpose of Auxiliary consumption;

- (f) **'Auxiliary energy consumption for emission control system'** or **'AUXe'** in relation to a period in the case of coal or lignite based thermal generating station means the quantum of energy consumed by auxiliary equipment of the emission control system of the coal based thermal generating station in addition to the auxiliary energy consumption under clause (e) of this Regulation;
- (g) **“Auditor”** means an auditor appointed by the Generating Company, in accordance with the provisions of Sections 224, 223B and 619 of the Companies Act, 1956 (1 of 1956), as amended from time to time or Chapter X of the Companies Act, 2013 (18 of 2013) or any other law for the time being in force;
- (h) **“Beneficiary”** in relation to a generating station means the person purchasing electricity generated at such a generating station whose tariff is determined under these Regulations;
- (i) **“Capital Cost”** means the capital cost as determined in accordance with Regulation 15 of these Regulations;
- (j) **“Change in Law”** means occurrence of any of the following events:
  - (i) enactment, bringing into effect or promulgation of any new Indian law; or
  - (ii) adoption, amendment, modification, repeal or re-enactment of any existing Indian law; or
  - (iii) change in interpretation or application of any Indian law by a competent court, Tribunal or Indian Governmental Instrumentality which is the final authority under law for such interpretation or application; or
  - (iv) change by any competent statutory authority in any condition or covenant of any consent or clearances or approval or licence available or obtained for the project.
  - (v) coming into force or change in any bilateral or multilateral agreement or treaty between the Government of India and any other Sovereign Government having implications for the generating station regulated under these Regulations.
- (k) **“Commission”** means the Odisha Electricity Regulatory Commission referred to in sub-section (1) of Section 82 of the Act;

- (l) **“Competitive Bidding”** means a transparent process for procurement of equipment, services and works in which bids are invited by the project developer by open advertisement covering the scope and specifications of the equipment, services and works required for the project, and the terms and conditions of the proposed contract as well as the criteria by which bids shall be evaluated, and shall include domestic competitive bidding and international competitive bidding;
- (m) **“Cut-off Date”** means the last day of the calendar month after thirty six (36) months from the date of commercial operation of the project;
- (n) **“Date of Commercial Operation”** or **“COD”** in respect of a thermal generating station or hydro generating station including pumped storage hydro generating station shall have the same meaning as defined under Regulation 3(34) of CERC (Indian Electricity Grid Code) Regulations, 2023 as amended from time to time till the Odisha Grid Code Regulations, 2015 is amended.
- (o) **Date of Operation or “OD”** in respect of an emission control system means the date of putting the emission control system into use after meeting all applicable technical and environmental standards, certified through the Management Certificate duly signed by an authorised person, not below the level of Direction of the Generating Company;
- (p) **“Day”** means a calendar day consisting of 24 hours period starting at 0000 hour;
- (q) **“Declared Capacity”** or **“DC”** in relation to a generating station means, the capability to deliver ex-bus electricity in MW declared by such generating station in relation to any time-block of the day or whole of the day, duly taking into account the availability of fuel or water, and subject to further qualification in these Regulation;
- (r) **“De-capitalisation”** for the purpose of the tariff under these Regulations, means reduction in Gross Fixed Assets of the generating project/ transmission system as admitted by the Commission corresponding to inter-unit transfer of assets or the assets taken out from service;
- (s) **“De-commissioning”** means removal from service of a generating station or a unit thereof, after it is certified by the Central Electricity Authority or any other statutory authority, either on its own or on an application made by the project developer or the beneficiaries or both, that the project cannot be operated due to non-performance of the assets on account of technological obsolescence or uneconomic operation or due to environmental concerns or safety issues or a combination of these factors;

Provided that the beneficiary(ies) shall be informed about de-commissioning at the time of filing of such application by the project developer to the CEA or any other authorized agency.

- (t) **“Design Energy”** means the quantum of energy which can be generated in a 90% dependable year with 95% installed capacity of the hydro generating station;
- (u) **“Emission Control System”** means a set of equipment or devices required to be installed in a coal based thermal generating station or unit thereof to meet the revised emission standards notified from time to time.
- (v) **“Energy Sent Out”** means the ex-bus energy generated by a generating station after deducting auxiliary consumption.
- (w) **“Existing Project”** means the generating station which has been declared under commercial operation from a date prior to 01.04.2024;
- (x) **“Expansion project”** shall include any addition of new capacity to the existing generating station;
- (y) **“Expenditure Incurred”** means the fund, whether the equity or debt or both, actually deployed and paid in cash or cash equivalent, for creation or acquisition of a useful asset and does not include commitments or liabilities for which no payment has been released;
- (z) **‘Extended Life’** means the life of a generating station or unit thereof beyond the period of useful life or operational life, as may be determined by the Commission on case to case basis.
- (aa) **“Financial Statement”** means for each financial year, the following statements, namely-
  - (i) Balance sheet, prepared in accordance with the form contained in Part I of Schedule III to the Companies Act, 2013 as amended from time to time;
  - (ii) Profit and loss account, complying with the requirements contained in Part II of Schedule III to the Companies Act, 2013;
  - (iii) Cash flow statement, prepared in accordance with the Accounting Standard on Cash Flow Statement (AS-3) of the Institute of Chartered Accountants of India;
  - (iv) Report of the statutory auditors;
  - (v) Cost records prescribed by the Central Government under Section 148 of the Companies Act, 2013;

Together with notes there to, and such other supporting statements and information as the Commission may direct from time to time;

Provided further that the Commission may, from time to time, specify regulatory accounts to be maintained by a local authority under the Act.

- (bb) **“Financial Year”** means a period commencing on 1st April of a calendar year and ending on 31st March of the subsequent calendar year;
- (cc) **“Force Majeure”** for the purpose of these Regulations means the event or circumstance or combination of events or circumstances including those stated below which partly or fully prevents the Generating Company to complete the project within the time specified in the Investment Approval or operating the project, and only if such events or circumstances are not within the control the Generating Company and could not have been avoided, had the Generating Company taken reasonable care or complied with prudent utility practices:
  - (i) Act of God including lightning, drought, fire and explosion, earthquake, volcanic eruption, landslide, flood, cyclone, typhoon, tornado, geological surprises, or exceptionally adverse weather conditions which are in excess of the statistical measures for the last hundred years; or
  - (ii) Any act of war, invasion, armed conflict or act of foreign enemy, blockade, embargo, revolution, riot, insurrection, terrorist or military action;
  - (iii) Industry wide strikes and labour disturbances having a nationwide impact in India; or
  - (iv) Delay in obtaining statutory approval for the project except where the delay is attributable to project developer;
- (dd) **“Fuel Supply Agreement”** means the agreement executed between the Generating Company and the fuel supplier for generation and supply of electricity to the beneficiaries;
- (ee) **“Generating Station”** shall have the same meaning as defined under sub-Section 30 of Section 2 of the Act and for the purpose of these Regulations shall also include stages or blocks or units of a generating station;
- (ff) **“Generating Unit”** or **“Unit”** in relation to a thermal generating station (other than combined cycle thermal generating station) means steam generator, turbine generator and auxiliaries, or in relation to a combined cycle thermal generating station, means turbine generator and auxiliaries or combustion turbine-generator, associated waste heat recovery boiler, connected steam turbine-generator and auxiliaries, and in relation to a hydro generating station including pumped storage hydro generating station means turbine generator and its auxiliaries;
- (gg) **“Grid Code”** means the OERC (Grid Code) Regulations, 2015 as amended from time to time or subsequent re-enactment thereof;
- (hh) **“Gross Calorific Value”** or **“GCV”** in relation to a thermal generating station means the heat produced in kCal by complete combustion of one kilogram of solid fuel or one litre of liquid fuel, as the case may be;

- (ii) **“GCV as Received”** means the GCV of coal as measured at the unloading point of the thermal generating station through collection, preparation and testing of samples from the loaded wagons, trucks, ropeways, Merry-Go-Round (MGR), belt conveyors and ships in accordance with the IS 436 (Part-1/ Section 1)- 1964;

Provided further that samples of coal shall be collected either manually or through hydraulic augur or through any other method considered suitable keeping in view the safety of personnel and equipment;

Provided also that the generating companies may adopt any advance technology for collection, preparation and testing of samples for measurement of GCV in a fair and transparent manner;

Provided that the measurement of GCV of coal shall be carried out through sampling by third party to be appointed by the generating companies in accordance with the guidelines, if any, issued by the Central Government/Commission;

Provided that GCV of coal ‘as Received’ shall be found out from GCV of coal on ‘as billed basis’ allowing an adjustment for total moisture as per the formula given as under:

$$\frac{\text{GCV X (1-TM)}}{(1-IM)}$$

Where: GCV = Gross Calorific Value of coal on as “billed basis”

TM = Total Moisture

IM = Inherent Moisture

- (jj) **“Gross Station Heat Rate”** or **“SHR”** means the heat energy input in kCal required to generate one kWh of electrical energy at generator terminals of a thermal generating station;
- (kk) **“Implementation Agreement”** means any agreement or covenant entered into (i) between the transmission licensee and the Generating Company or (ii) between the transmission licensee and developer of the interconnected transmission system for the execution of generation and transmission projects in a coordinated manner, laying down the project implementation schedule and mechanism for monitoring the progress of the projects;
- (ll) **“Indian Governmental Instrumentality”** means the Government of India, Governments of Odisha and any ministry or department or board or agency controlled by Government of India or Government of Odisha (where the project is located) or quasi-judicial authority constituted under the relevant statutes in India;
- (mm) **“Infirm Power”** means electricity injected into the grid prior to the date of commercial operation of a unit of the generating station;

- (nn) **“Installed Capacity”** or **“IC”** means the summation of the name plate capacities of all the units of the generating station or the capacity of the generating station reckoned at the generator terminals, as may be approved by the Commission from time to time;
- (oo) **“Investment Approval”** means approval by the Board of the Generating Company or any other competent authority conveying administrative sanction for the project including funding of the project and the timeline for the implementation of the project;

Provided that the date of Investment Approval shall reckon from the date of the resolution of the Board of the Generating Company where the Board is competent to accord such approval and from the date of sanction letter of competent authority in other cases;

Provided further that where investment approval includes both the generating station and the integrated mine(s), the funding and timeline for implementation of the integrated mine(s) shall be worked out and indicated separately and distinctly in the Investment Approval.

- (pp) **“kCal”** means a unit of heat energy contents in mineral, measured in one kilo calories or one thousand calories of heat produced at any instantaneous period;
- (qq) **“Kilowatt-Hour”** or **“kWh”** means a unit of electrical energy, measured in one kilowatt or one thousand watts of power produced or consumed over a period of one hour;
- (rr) **“Landed Fuel Cost”** means the total cost of coal (including biomass in case of co-firing) delivered at the unloading point of the generating station and shall include the base price or input price, washery charges wherever applicable, transportation cost (overseas or inland or both) and handling cost, charges for third party sampling and applicable statutory charges;
- (ss) **“Maximum Continuous Rating”** or **“MCR”** in relation to a generating unit of the thermal generating station means the maximum continuous output at the generator terminals, guaranteed by the manufacturer at rated parameters, and in relation to a block of a combined cycle thermal generating station means the maximum continuous output at the generator terminals, guaranteed by the manufacturer with water or steam injection (if applicable) and corrected to 50 Hz grid frequency and specified site conditions;
- (tt) **“New Project”** means the generating station or unit thereof achieving its commercial operation on or after 01.04.2024;
- (uu) **“Non-pit head generating station”** or **“Non-Pit head Plant”** means coal based generating stations other than pit head generating stations.
- (vv) **“Operation and Maintenance Expenses”** or **“O&M expenses”** means the expenditure incurred for operation and maintenance of the project, or part thereof in a financial year and includes the expenditure on manpower, maintenance, repairs and maintenance spares, other spares of capital nature



valuing up to Rs. 10 lakhs, additional capital expenditure of an individual asset costing less than Rs. 20 lakhs, consumables, insurance, security expenses, overheads and fuel other than used for generation of electricity;

- (ww) **“Original Project Cost”** means the capital expenditure incurred by the Generating Company, within the original scope of the project up to the cut-off date, and as admitted by the Commission;
- (xx) **“Pit head Generating Station” or “Pit head Power Plant”** means as defined under the Environment (Protection) Rules, 1986.
- (yy) **“Plant Availability Factor (PAF)”** in relation to a generating station for any period means the average of the daily declared capacities (DCs) for all the days during that period expressed as a percentage of the installed capacity in MW less the auxiliary energy consumption and auxiliary energy consumption for emission control system as per these Regulations;
- (zz) **“Plant Load Factor” or “(PLF)”** in relation to thermal generating station or unit thereof for a given period means the total energy sent out corresponding to scheduled generation during the period, expressed as a percentage of energy sent out corresponding to installed capacity in that period and shall be computed in accordance with the following formula:

$$PLF = 10000 \times \sum_{i=1}^N \frac{SG_i}{[N \times IC \times (100 - AUX_n - AUX_{en})]} \%$$

Where,

- IC = Installed Capacity of the generating station or unit in MW,
- SG<sub>i</sub> = Scheduled Generation in MW for the i<sup>th</sup> time block of the period,
- N = Number of time blocks during the period,
- AUX<sub>n</sub> = Normative Auxiliary Energy consumption as a percentage of gross energy generation; and
- AUX<sub>en</sub> = Normative Auxiliary Energy consumption for emission control system as a percentage of gross energy generation, wherever applicable.

(aaa) **“Project”** means

- (i) in case of a hydro generating station, all components of hydro generating station including the dam, intake water conductor system, power generating station, as apportioned to power generation;
- (ii) in case of thermal generating station, all components of the thermal generating station including biomass pellet handling system, pollution control system, effluent treatment plan, as may be required;

Provided that in case of thermal generating stations, it does not include mining (if it is a pit head project) and dedicated captive coal mine;

- (bbb) **“Prudence Check”** means scrutiny of reasonableness of any cost or expenditure incurred or proposed to be incurred in accordance with these Regulations by the Generating Company;
- (ccc) **“Pumped Storage Hydro Generating Station”** means a hydro generating station which generates power through energy stored in the form of water energy, pumped from a lower elevation reservoir to a higher elevation reservoir;
- (ddd) **“Quarter”** means the period of three months commencing on the first day of April, July, October and January of each financial year in case of existing project, and in case of a new project, in respect of the first quarter, from the date of commercial operation to the last day of June, September, December or March, as the case may be;
- (eee) **“Revised Emission Standards”** in respect of thermal generating station means the revised norms notified as per Environment (Protection) Amendment Rules, 2015 or any other Rules as may be notified from time to time;
- (fff) **“Run-of-River Generating Station”** means a hydro generating station which does not have upstream pondage;
- (ggg) **“Run of River Generating Station with Pondage”** means a hydro generating station with sufficient pondage for meeting the diurnal variation of power demand;
- (hhh) **“Scheduled Commercial Operation Date” or “SCOD”** shall mean the date(s) of commercial operation of a generating station or generating unit thereof as indicated in the Investment Approval or as agreed in power purchase agreement as the case may be, whichever is earlier;
- (iii) **“Scheduled Energy”** means the quantum of energy scheduled by the concerned Load Despatch Centre to be injected into the grid by a generating station for a given time period;
- (jjj) **“Scheduled Generation” or “Scheduled Injection”** for a time block or any period means the schedule of generation or injection in MW or MWh ex-bus, including the schedule for Ancillary Services given by the State Load Despatch Centre;
- (kkk) **“State Generating Station”** means a generating station whose entire generation of electricity is dedicated to the State.
- (lll) **“Start Date” or “Zero Date”** means the date indicated in the Investment Approval for commencement of implementation of the project and where no such date has been indicated, the date of Investment Approval shall be deemed to be Start Date or Zero Date;

- (mmm) **“Statutory Charges”** means taxes, cess, duties, royalties and other charges levied through Acts of the Parliament or State Legislatures or by Indian Governmental Instrumentality under relevant statutes;
- (nnn) **“Storage Type Generating Station”** means a hydro generating station associated with storage capacity to enable variation of generation of electricity according to demand;
- (ooo) **“Tariff Period”** means a period of five (5) years from 1<sup>st</sup> April 2024 to 31<sup>st</sup> March 2029,
- (ppp) **“Thermal Generating Station”** means a generating station or a unit thereof that generates electricity using fossil fuels such as coal, lignite, gas, liquid fuel or combination of these as its primary source of energy or co-firing of biomass with coal;
- (qqq) **“Trial Run”** in relation to generating station or unit thereof shall have the same meaning as defined under Regulation 3 (131) of CERC (Indian Electricity Grid Code) Regulations, 2023 and its amendments from time to time till the Odisha Grid Code Regulations, 2015 is amended;
- (rrr) **“Unloading Point”** means the point within the premises of the coal based thermal generating station where the coal is unloaded from the rake or truck or any other mode of transport;
- (sss) **“Useful Life”** in relation to a unit of a generating station from the date of Commercial Operation shall mean the following,
- |   |          |
|---|----------|
| (i) Coal based thermal generating station -                                       | 25 years |
| (ii) Hydro generating station including pumped storage hydro generating station - | 40 years |
| (iii) AC and DC sub-station   | 25 years |
| (iv) Gas Insulated Substation (GIS)   | 25 years |
| (v) Transmission line (including HVAC & HVDC)                                     | 35 years |
| (vi) Optical Ground Wire (OPGW)   | 15 years |
| (vii) IT system, SCADA and Communication system excluding OPGW                    | 7 years  |

Provided that in the case of coal based thermal generating stations and hydro generating stations, the Operational Life may be 35 years and 50 years, respectively.

Provided that the extension of life of the projects beyond the completion of their useful life shall be decided by the Commission on case to case basis basing on the submission of the Generator;

- (ttt) **“Year”** means a financial year commencing from 1st April of a calendar year and ending on 31st March of subsequent calendar year.

Provided that the first year in case of new project shall commence from the date of commercial operation and end on the immediately following 31st March.

- (2) The words and expressions used in these Regulations and not defined herein but defined in the Act or any other Regulations of the Commission shall have the same meaning assigned to them under the Act or any other Regulations of the Commission.
  - (3) Reference to any Act, Rules and Regulations shall include amendment or consolidation or re-enactment thereof.
4. All proceedings under these Regulations shall be governed by the OERC (Conduct of Business) Regulations, 2004 as amended from time to time.

**CHAPTER – 2****DATE OF COMMERCIAL OPERATION AND SALE OF INFIRM POWER****5. DATE OF COMMERCIAL OPERATION**

The date of commercial operation of a generating station or until thereof shall be determined in accordance with the definition under Regulation 3(1)(n) of these Regulations.

**6. SALE OF INFIRM POWER:**

Supply of infirm power shall be in accordance with the CERC (Deviation Settlement Mechanism and Related matters) Regulations, 2022 as amended from time to time till the OERC (Deviation Settlement Mechanism & Related Matters) Regulations is notified by the Commission.

Provided that any revenue earned by the Generating Company from the supply of infirm power after accounting for the fuel expenses shall be applied in adjusting the capital cost accordingly.

**CHAPTER – 3****PROCEDURE FOR TARIFF DETERMINATION****7. TARIFF DETERMINATION**

- (1) Notwithstanding anything contained in these Regulations, the Commission shall at all times have the authority to determine the tariff, including terms and conditions thereof, of any Generating Company on a Petition filed by the applicant.
- (2) Tariff in respect of a generating station and emission control system, wherever applicable, may be determined for the whole of the generating station or a unit(s) thereof:
  - (i) The interim tariff shall be determined for unit(s) till the time tariff cannot be determined for the whole of the generating station.
  - (ii) The tariff shall be determined for the whole of the generating station after the cut-off date of the last unit in the generating plant or after the capital cost of the last unit in the generating plant is finalized, whichever is earlier;
  - (iii) In case of commercial operation of all the units of a generating station prior to 01.04.2024, the Generating Company shall file a consolidated petition in respect of the entire generating station for the purpose of determination of tariff for the period from 01.04.2024 to 31.03.2029.
  - (iv) The Generating Company shall file an application for determination of supplementary tariff for the emission control system installed in a coal based thermal generating station in accordance with these Regulations not later than 90 days from the date of operation of such emission control system.
- (3) Energy charge component of the tariff of generating station getting coal from the integrated mine shall be determined based on the input price of coal from such integrated mines as determined under OERC (Determination of Input Price of Coal from Integrated Mine) Regulations, 2024 as amended from time to time.
- (4) In case of multi-purpose hydro schemes, with irrigation, flood control and power generation, the capital cost chargeable towards power generating stations shall be considered for determination of tariff.
- (5) Where only a part of the generation capacity of a generating station is tied up for supplying power to the beneficiaries through a long term power purchase agreement, the unit(s) for such part capacity shall be clearly identified and in such cases the tariff shall be determined for such identified capacity. Where the unit(s) corresponding to such part capacity cannot be identified, the tariff of the generating station shall be determined with reference to the capital cost of the

entire project, but the tariff so determined shall be applicable corresponding to the part capacity contracted for supply to the beneficiaries.

- (6) In case of expansion of existing generating station, the tariff shall be determined for the expanded capacity in accordance with these Regulations;

Provided that the common infrastructure of existing generating station, shall be utilized for the expanded capacity and the benefit of new technology in the expanded capacity, as determined by the Commission, shall be extended to the existing capacity.

- (7) Assets installed for implementation of the revised emission standards shall form part of the existing generation project and tariff thereof shall be determined separately in accordance with the application filed under the 3<sup>rd</sup> Proviso to Regulation 8 (1) of these Regulations.

- (8) For the purpose of determination of tariff, the capital cost of the project may be broken up into units and distinct units forming part of the project, if required;

Provided that where break-up of the capital cost of the project for different units are not available and in case of on-going projects, the common facilities shall be apportioned on the basis of the installed capacity of the units.

- (9) The Commission, if need arises, due to insufficiency of data, explanation, information etc. provided by the petitioner, may issue provisional tariff for the whole of the generating station or a unit or units of the generating station till such time final tariff is determined.

## **8. APPLICATION FOR DETERMINATION OF TARIFF**

- (1) The Generating Company may make an application for determination of tariff of new generating station or unit thereof in accordance with these Regulations within 90 days from the actual Date of Commercial Operation:

Provided that the Generating Company shall make an application (as per formats prescribed by the Commission with necessary information and explanation) and shall submit an auditor certificate (in case of non-availability of Auditor Certificate a Management Certificate duly signed by an authorised person, not below the level of Director of the Company) indicating the estimated capital expenditure incurred as on the date of commercial operation and projected additional capital expenditure for respective years of the tariff period 2024-2029.

Provided that for a new generating station or unit thereof, the applicant, through a specific prayer in its application filed under Regulation 8(1) of these Regulations, may plead for an interim tariff, and the Commission may consider granting interim tariff from the Date of Commercial Operation (COD) after the first hearing of the application and where such interim tariff of the generating station or unit thereof has been determined based on Management Certificate, the Generating Company shall submit the Auditor Certificate not later than 90 days from the Date of Commercial Operation.

Provided also that the Generating Company shall file an application for determination of supplementary tariff for the emission control system installed in coal or lignite based thermal generating station in accordance with these Regulations not later than 90 days from the date of start of operation of such emission control system.

- (2) In case of an existing generating station or unit thereof, the application shall be made by the Generating Company by 30.12.2024 (as per formats prescribed by the Commission with necessary information and explanation) except OHPC and OPGC (UNIT-I & II) and shall be based on admitted capital cost including any additional capitalization already admitted up to 31.03.2024 (either based on actual or projected additional capital expenditure) and estimated additional capital expenditure for the respective years of the tariff period 2024-25 to 2028-29 along with the true up petition for the period 2019-20 and 2020-2024 in accordance with OERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2014 and OERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2020 respectively;

Provided further that, in case of emission control system required to be installed in the existing generating station or unit thereof to meet the revised emission standards, an application shall be made for determination of supplementary tariff (capacity charges or energy charge or both) based on the actual capital expenditure duly certified by the Auditor;

Provided that the application shall have due recommendation from the CEA.

- (3) The Commission, if so desires, can get the capital and / additional capital expenditure verified by an independent agency appointed by the Commission, the cost of such verification shall be borne by the Generating Company or as directed by the Commission;
- (4) The application shall contain details of underlying assumptions for capital cost and additional capital expenditure incurred/projected to be incurred, wherever applicable;
- (5) Any additional capital expenditure will be as per Regulation 20-23 & Regulation 25 of these Regulations.
- (6) The tariff filing shall be in such form and in such manner as may be prescribed by the Commission from time to time.
- (7) Every application for determination of tariff or for continuation of previously determined tariff shall be accompanied by a fee as specified by the Commission for filing of petitions or applications before the Commission, as amended from time to time.
- (8) The Commission may seek clarification and additional information on the application and the applicant shall provide clarifications and additional information within the date stipulated by the Commission.



- (9) True up for any period shall be governed by the provisions of the Regulation under which the tariff for that year was determined.

## **9. TARIFF PETITION**

- (1) The Tariff Petition filed by the Generating Company (for their existing generating station) shall include a forecast of Aggregate Revenue Requirement and expected revenue from Tariff for each year of the Tariff Period in the manner specified in these Regulations, and shall be accompanied by applicable fees.
- (2) The forecast of expected revenue from Tariff and charges shall be based on the estimated quantum of electricity to be generated by each unit / station for each year of the Tariff Period;
- (3) Based on the forecast of Aggregate Revenue Requirement and expected revenue from Tariff and charges, the Generating Company shall submit the proposed Tariff or Fees and Charges for each year of the Tariff Period, to meet the gap, if any, in the Aggregate Revenue Requirement including unrecovered revenue gaps of previous years to the extent proposed to be recovered.
- (4) The detail information supporting the forecast including but not limited to details of past performance, proposed initiatives for achieving efficiency or productivity gains, technical studies, audited Financial Statements contractual arrangements and secondary research shall be provided to enable the Commission to assess the reasonableness of the forecast.
- (5) On receipt of the Petition, the Commission shall either-
  - (a) issue an Order approving the Aggregate Revenue Requirement and Tariff for each financial year, subject to such modifications and conditions as it may stipulate; or
  - (b) reject the Petition for reasons to be recorded in writing, after giving the Petitioner a reasonable opportunity of being heard.
- (6) The Commission shall grant the final tariff in the case of existing and new projects after considering the replies received from the respondents and suggestions and objections, if any, received from the general public and any other person permitted by the Commission, including consumers or consumer associations.
- (7) Notwithstanding anything contained above OHPC and OPGC (UNIT-I & II) may make application (in the Format prescribed by the Commission) by November 30th of every year for determination of tariff in respect of their existing generating station as a whole or unit(s) thereof.

Provided that the OHPC and OPGC (Unit - I & II) shall make application (in the prescribed Format) with necessary information and explanations for determination of tariff based on capital expenditure incurred duly certified by the auditors up to the date of commercial operation and additional capital expenditure incurred duly certified by the auditors or projected to be incurred during the

period for which application for determination by tariff is filed of the Generating Company:

Provided further that application shall contain details of underlying assumptions for projected capital cost and additional capital expenditure, wherever applicable.

#### **10. IN-PRINCIPLE APPROVAL IN SPECIFIC CIRCUMSTANCES:**

The Generating Company for a specific generating station undertaking any additional capitalization on account of change in law events or force majeure conditions may file petition for in-principle approval for incurring such expenditure after prior notice to the beneficiaries or the long term customers, as the case may be, along with underlying assumptions, estimates and justification for such expenditure if the estimated expenditure exceeds 10% of the admitted capital cost of the project or Rs.100 Crore, whichever is lower.

#### **11. TRUING UP OF TARIFF FOR THE PERIOD 2019-2024**

The tariff of the generating stations for the period 2019-20 and 2020-2024 shall be trued up in accordance with Odisha Electricity Regulatory Commission (Terms and Conditions for Determination of Generation Tariff) Regulations, 2014 and Odisha Electricity Regulatory Commission (Terms and Conditions for Determination of Generation Tariff) Regulations, 2020 respectively along with the tariff petition for the period 2024-2029. The capital cost admitted as on 31.03.2024 based on the truing up shall form the basis of the opening capital cost as on 01.04.2024 for the tariff determination for the period 2024-2029.

#### **12. TRUING UP OF TARIFF FOR THE PERIOD 2024-2029**

- (1) The Commission shall carry out truing up exercise at the end of the Tariff Period along with the tariff petition filed for the next tariff period, with respect to the following:
  - (a) the capital expenditure including additional capital expenditure incurred up to 31.03.2029, as admitted by the Commission after prudence check at the time of truing up.
  - (b) the capital expenditure including additional capital expenditure incurred up to 31.03.2029, on account of Force Majeure and Change in Law as admitted by the Commission.
  - (c) the additional capital expenditure incurred up to 31.03.2029 on account of the Emission Control System as admitted by the Commission.

Provided that the Generating Company, shall make an application, as per the Format prescribed by the Commission with necessary information and explanations, for carrying out truing up exercise in respect of the generating station or a unit thereof:

- (2) The Generating Company, shall submit details of capital expenditure and additional capital expenditure incurred for the period from 01.04.2024 to 31.03.2029, duly audited and certified by the auditors, for the purpose of truing up.

Provided that where after the truing up, if the tariff determined is less than the tariff approved by the Commission under these Regulations, the Generating Company shall refund the excess amount recovered to the beneficiary(ies) along with interest at the rate worked out on the basis of one year SBI MCLR plus 100 basis points as prevalent as on 1<sup>st</sup> April of the respective year, from the date of issue of Order by the Commission.

Provided that where after the truing up, if the tariff determined is more than the tariff approved by the Commission under these Regulations, the Generating Company shall recover the under-recovered amount from the beneficiary(ies) along with interest at the rate worked out on the basis of one year SBI MCLR plus 100 basis points as prevalent as on 1<sup>st</sup> April of the respective year, from the date of issue of the Order by the Commission.

Provided that the amount along with interest at the rates specified in this Regulation, shall be recovered from the beneficiary(ies) or refunded by the Generating Company in six (6) equal monthly instalments starting within three (3) months from the date of issue of the tariff order by the Commission after completion of the truing up exercise.

- (3) OHPC and OPGC (Unit - I & II) may file an application each year for truing up of expenses in respect to the capital expenditure and additional capital expenditure incurred during the previous year(s) for their existing generation plants/stations for determination of revenue gap/surplus for the ensuing year, within the time limit as specified in these Regulations.

Provided that the applicant shall submit the information to the Commission, in such form as may be prescribed by the Commission, together with the Audited Accounts, extracts of books of account and such other details as the Commission may require to assess the reasons for and extent of any variation in financial performance from the approved forecast of Aggregate Revenue Requirement and expected revenue from tariff and charges.

## CHAPTER - 4

### TARIFF STRUCTURE

#### 13. COMPONENTS OF TARIFF

- (1) The tariff for the supply of electricity from a thermal generating station shall comprise two parts, namely, capacity charge (for recovery of annual fixed cost consisting of the components as specified in Regulation 14(1) & (2) of these Regulations) and energy charge (for recovery of primary and secondary fuel cost and cost of limestone and any other reagent, where applicable as specified in Regulation 14(3) of these Regulations).
- (2) The Supplementary tariff consisting of supplementary capacity charges and supplementary energy charges, on account of the implementation of revised emission standards in existing generating stations or new generating stations, as the case may be, shall be determined by the Commission separately.
- (3) The capacity charge and energy charge of a generating station shall be determined in accordance with the provisions of Chapter 6 of these Regulations. The input price of coal from the integrated mines as determined in accordance with OERC (Determination of Input Price of Coal from Integrated mine) Regulations, 2024 as amended from time to time, shall form part of the energy charge of the generating station.
- (4) The tariff for the supply of electricity from a hydro generating station shall comprise of a capacity charge and an energy charge to be derived in the manner specified in Regulation 45 or 46 of these Regulations, as may be applicable, for recovery of the annual fixed cost consisting of the components referred to in Regulation 14 of these Regulations.

#### 14. ANNUAL FIXED COST, CAPACITY CHARGE & ENERGY CHARGE

##### (1) Capacity Charges:

The capacity charges shall be derived on the basis of Annual Fixed Costs. The Annual Fixed Cost (AFC) of a generating station shall consist of the following components:

- (a) Return on equity;
- (b) Interest on loan capital;
- (c) Depreciation;
- (d) Interest on working capital;
- (e) Operation and maintenance expenses;
- (f) Tax on Income
- Less:
- (g) Non Tariff Income

Provided that the Special Allowance in lieu of R&M, where opted in accordance with Regulation 24 of these Regulations, shall be recovered separately and shall not be considered for computation of working capital.

**(2) Supplementary Capacity Charge:**

Supplementary capacity charges shall be derived on the basis of the Annual Fixed Cost for emission control system (AFCE). The Annual Fixed Cost for the emission control system shall consist of the components as listed in Sub-clauses (a) to (e) of Clause (1) of this Regulation.

**(3) Energy Charge:**

Energy charges shall be derived on the basis of the landed fuel cost (LFC) of a generating station (excluding hydro) and shall consist of the following costs.

- (a) Landed Fuel Cost of primary fuel;
- (b) Cost of secondary fuel oil consumption; and
- (c) Cost of limestone or any other reagent, as applicable

Provided that any refund of taxes and duties along with any amount received on account of penalties from the fuel supplier shall be adjusted in fuel cost.

Provided further that the supplementary energy charges, if any, on account of meeting the revised emission standards in case of a thermal generating station shall be determined separately by the Commission as per Regulation 44 of these Regulations.

Provided also that in case of supply of coal from the integrated mine(s), the landed cost of primary fuel shall be based on the input price of coal as computed in accordance with OERC (Determination of Input Price of Coal from Integrated mine) Regulations, 2024 as amended from time to time.

- (4) Notwithstanding anything mentioned in these Regulations, Capacity Charge and Energy Charge for OHPC and OPGC (Unit-I & II) will be determined by the Commission by taking into account the notification(s) issued by the Government of Odisha from time to time and their PPAs.

**CHAPTER – 5**

**COMPUTATION OF CAPITAL COST & ADDITIONAL CAPITAL EXPENDITURE**

**AND**

**CAPITAL STRUCTURE**

**15. CAPITAL COST OF THE PROJECT**

- (1) The Capital Cost of the generating station as determined by the Commission after prudence check in accordance with these Regulations shall form the basis for the determination of tariff for existing and new projects.
- (2) The Capital Cost of a new project shall include the following:
  - (a) The expenditure incurred or projected to be incurred up to the date of commercial operation of the project;
  - (b) Interest During Construction (IDC) and financing charges, on the loans;
    - (i) being equal to 70% of the funds deployed and, in the event actual equity is in excess of 30% on a pari-passu basis, by treating the excess equity over and above 30% of the funds deployed as a normative loan, or
    - (ii) being equal to the actual amount of the loan in the event of actual equity being less than 30% of the funds deployed;
  - (c) Any gain or loss on account of foreign exchange risk variation pertaining to the loan amount availed during the construction period;
  - (d) Interest During Construction (IDC) and Incidental Expenditure During Construction (IEDC) as computed in accordance with these Regulations;
  - (e) Capitalised initial spares subject to the ceiling rates in accordance with these Regulations;
  - (f) Expenditure on account of additional capitalization and decapitalization for respective year of tariff as determined in accordance with these Regulations;
  - (g) Adjustment of revenue due to sale of infirm power in excess of fuel cost prior to the Date of Commercial Operation as specified under Regulation 6 of these Regulations;
  - (h) Capital expenditure on account of ash disposal and utilization including handling and transportation facility;
  - (i) Capital expenditure incurred towards railway infrastructure and its augmentation for transportation of coal upto the receiving end of the generating station but does not include the transportation cost and any other appurtenant cost paid to the railway;

- (j) Capital expenditure on account of biomass handling equipment and facilities, for co-firing;
  - (k) Capital expenditure on account of emission control system necessary to meet the revised emission standards and sewage treatment plant;
  - (l) Expenditure on account of fulfilment of any conditions for obtaining environment clearance for the project;
  - (m) Expenditure on account of change in law and force majeure events;
  - (n) Capital cost incurred or projected to be incurred by a thermal generating station, on account of implementation of the norms under Perform, Achieve and Trade (PAT) scheme of Government of India shall be considered by the Commission subject to sharing of benefits accrued under the PAT scheme with the beneficiaries;
  - (o) Expenditure required to enable flexible operation of the Generating station at lower loads.
- (3) The Capital cost of an existing project shall include the following:
- (a) Capital cost admitted by the Commission prior to 01.04.2024 duly trued up by excluding liability, if any, as on 01.04.2024;
  - (b) Additional capitalization and de-capitalization for the respective year of tariff as determined in accordance with these Regulations;
  - (c) Capital expenditure on account of Renovation & Modernisation / Capital Maintenance as admitted by this Commission in accordance with these Regulations;
  - (d) Capital expenditure on account of ash disposal and utilization, including handling and transportation facility;
  - (e) Capital expenditure incurred towards railway infrastructure and its augmentation for transportation of coal up to the receiving end of generating station but does not include the transportation cost and any other appurtenant cost paid to the railway;
  - (f) Capital cost incurred or projected to be incurred by a thermal generating station, on account of implementation of the norms under the Perform, Achieve and Trade (PAT) scheme of the Government of India shall be considered by the Commission subject to sharing of benefits accrued under the PAT scheme with the beneficiaries;
  - (g) Expenditure required to enable flexible operation of the generating station at lower loads;
  - (h) Capital expenditure on account of biomass handling equipment and facilities, for co-firing; and
  - (i) Expenditure on account of change in law and force majeure events;

(4) The Capital Cost in case of existing or new Hydro Generating Station shall also include:

- (a) Cost of approved Rehabilitation and Resettlement (R&R) plan of the project in conformity with National R&R Policy and R&R package as approved; and
- (b) Cost of the developer's 10% contribution towards Rajiv Gandhi Grameen Vidyutikaran Yojana (RGGVY) and Deendayal Upadhyaya Gram Jyoti Yojana (DDUGJY) project in the affected area.
- (c) For uninterrupted and timely development of Hydro projects, expenditure incurred towards developing local infrastructure in the vicinity of the power plant not exceeding Rs. 10 lakh/MW shall be considered as part of the Capital cost, and in case the same work is covered under budgetary support provided by the Government of India, the funding of such works shall be adjusted on receipt of such funds.

Provided that such funds shall be allowed only if the funds are spent through Indian Governmental Instrumentality;

(5) For Projects acquired through NCLT proceedings under the Insolvency and Bankruptcy Code, 2016, the following shall be considered while approving Capital Costs for the determination of tariff:

- (a) For projects already under operation, historical GFA of the project acquired or the acquisition cost paid by the Generating Company, whichever is lower;
- (b) For considering the historical GFA for the purpose of Sub-Clause (a) above, the same shall be the capital cost approved by the Commission till the date of acquisition;

Provided that in the absence of any prior approved capital cost of Commission, the Commission shall consider the same on the basis of audited accounts subject to prudence check;

Provided further, that in case additional capital expenditure is required post acquisition of an already operational project, the same shall be considered under the provisions of Regulation 20-23 and Regulation 25 of these Regulations;

- (c) In case any under construction project is acquired that has yet to achieve commercial operation, the acquisition cost or the actual audited cost incurred till the date of acquisition, whichever is lower, shall be considered and;
- (d) Any additional capital expenditure incurred post acquisition of such project up to the date of commercial operation of the project in line with the investment approval of the Board of Directors of the Generating Company shall also be considered on a case to case basis subject to prudence check.

Provided that post commercial operation, additional capital expenditure shall be allowed under the provisions of Regulation 20-25 of these Regulations.



(6) The following shall be excluded from the capital cost of the existing and new projects:

- (a) The assets forming part of the project but not in use, as declared in the tariff petition;
- (b) De-capitalised Assets after the date of commercial operation on account of obsolescence;
- (c) De-capitalised Assets on account of upgradation or shifting from one project to another project:

Provided that in case such an asset is recommended for further utilisation by the Commission in consultation with Generating Company, such asset shall be de-capitalised from the original project only after its redeployment;

Provided further that unless shifting of an asset from one project to another is of a permanent nature, there shall be no de-capitalization of the concerned assets.

- (d) In the case of hydro generating stations, any expenditure incurred or committed to be incurred by a project developer for getting the project site allotted by the State Government by following a transparent process;
- (e) Proportionate cost of land of the existing generation, which is being used for generating power from a generating station based on renewable energy as may be permitted by the Commission; and
- (f) Any grant received from the Central or State Government or any statutory body or authority for the execution of the project that does not carry any liability of repayment.

## **16. PRUDENCE CHECK OF CAPITAL COST:**

The capital cost admitted by the Commission after prudence check shall form the basis for determination of tariff. The following principles shall be adopted for prudence check of capital cost of the existing or new projects:

- (1) In the case of the thermal generating station, the prudence check may include scrutiny of the reasonableness of the capital expenditure in the light of capital cost of similar projects based on past historical data, wherever available, reasonableness of financing plan, interest during construction, incidental expenditure during construction, use of efficient technology, cost over-run and time over-run, procurement of equipment and materials through competitive bidding as given in Regulation 68 and such other matters as may be considered appropriate by the Commission for determination of tariff;
- (2) Where the power purchase agreement entered into between the Generating Company and the beneficiaries provide for ceiling of actual expenditure, the capital expenditure admitted by the Commission shall take into consideration such ceiling during prudence check for determination of tariff;

Provided also that the Commission may issue guidelines for vetting of capital cost of hydro-electric projects by independent agency or expert body and in that event the capital cost as vetted by such agency or expert may be considered by the Commission while determining the tariff for the hydro generating station;

Provided also that in case the site of a Hydro Generating Station is awarded to a developer (not being a State controlled or owned company) by the State Government by following a transparent process of bidding, any expenditure incurred or committed to be incurred including the premium payable to the State Government by the project developer for getting the project site allotted, shall not be included in the capital cost.

#### **17. INTEREST DURING CONSTRUCTION (IDC) AND INCIDENTAL EXPENDITURE DURING CONSTRUCTION (IEDC)**

- (1) Interest during construction (IDC) shall be computed considering the actual loan and normative loan after taking into account the prudent phasing of funds up to actual COD:

Provided that IDC on a normative loan corresponding to excess equity over 30% of funds deployed shall be allowed only in cases where the actual infusion of equity on a pari-passu basis is more than 30% of total funds deployed and shall be computed on a quarterly basis.

Provided further that in case IDC on normative loan is to be allowed prior to infusion of actual loan, rate of interest for computing such IDC shall be equal to 1-year SBI MCLR as prevailing on 1<sup>st</sup> April of the respective year. Provided further that IDC on normative loan, post infusion of actual loan shall be computed based on Weighted Average Rate of Interest (WAROI) for that respective quarter.

- (2) Incidental Expenditure During Construction (IEDC) shall be computed from the zero date, taking into account pre-operative expenses upto actual COD:

Provided that any revenue earned during construction period up to actual COD on account of interest on deposits or advances, or any other receipts shall be taken into account for reduction in Incidental Expenditure During Construction.

- (3) In case of additional costs on account of IDC and IEDC due to delay in achieving the COD, the Generating Company for a specific generating station shall be required to furnish detailed justifications with supporting documents for such delay including prudent phasing of funds in case of IDC and details of IEDC during the period of delay and liquidated damages recovered or recoverable corresponding to the delay.
- (4) If the delay in achieving the COD is not attributable to the Generating Company, IDC and IEDC beyond SCOD may be allowed after prudence check and the liquidated damages, if any, recovered from the contractor or supplier or agency shall be adjusted in the capital cost of the generating station.
- (5) If the delay in achieving the COD is attributable either in entirety or in part to the Generating Company or its contractor or supplier or agency, in such cases, IDC

and IEDC may be disallowed after prudence check either in entirety or on pro-rata basis corresponding to the period of delay not condoned vis-à-vis total implementation period and the liquidated damages, if any, recovered from the contractor or supplier or agency shall be retained by the Generating Company in the same proportion of delay not condoned vis-à-vis total implementation period.

[Note: For example: In case a project was scheduled to be completed in 48 months and is actually completed in 60 months. Out of 12 months of time overrun, if only 6 months of time overrun is condoned, the allowable IDC and IEDC shall be computed by considering the total IDC and IEDC incurred for 60 months and allowed in the proportion of 54 months over 60 months period.]

Provided that in cases where delay in achieving COD is beyond six months from SCOD on account of delay in obtaining approval of any of the following activities namely, i) forest clearance, ii) NHAI clearance, or iii) Railways permission, a time overrun maximum upto 95% shall be allowed after prudence check.

- (6) For the purpose of Clauses (4) and (5) of this Regulation, IDC on actual loan and normative loan shall be considered in accordance with the normative debt-equity ratio as specified in Regulation 26 (1) of these Regulations.

## **18. CONTROLLABLE AND UNCONTROLLABLE FACTORS**

- (1) The following shall be considered as controllable and uncontrollable factors for deciding time over-run, cost escalation, IDC and IEDC of the new project:
  - (a) The “controllable factors” shall include but shall not be limited to the following:
    - (i) Efficiency in the implementation of the project not involving approved change in scope of such project, change in statutory levies or change in law or force majeure events; and
    - (ii) Delay in execution of the project on account of contractor or supplier or agency of the Generating Company.
  - (b) The “uncontrollable factors” shall include but shall not be limited to the following:
    - (i) Force Majeure events;
    - (ii) Change in law; and
    - (iii) Land acquisition except where the delay is attributable to the Generating Company.

**19. INITIAL SPARES:**

Initial spares shall be capitalised as a percentage of the Plant and Machinery cost, subject to the following ceiling norms:

(a)	Coal-based/lignite-fired thermal generating stations	4.0%
(b)	Hydro generating stations including pumped storage hydro generating station	4.0%
(c)	Transmission system	
	(i) Transmission Line	1.0%
	(ii) Transmission Sub-station	
	- Green field	4.0%
	- Brown field	6.0%
	(iii) Series Compensation Devices and HVDC Station	4.0%
	(iv) Gas Insulated Sub-station (GIS)	
	- Green field	5.0%
	- Brown field	7.0%
	(v) Communication System	3.5%
	(vi) Static Synchronous Compensator	6.0%

Provided that:

- (i) Plant and Machinery cost shall be considered as the original project cost excluding IDC, IEDC, Land Cost and Cost of Civil Works. The Generating Company, for the purpose of estimating Plant and Machinery Costs, shall submit the break-up of head-wise IDC and IEDC in its tariff application;
- (ii) Where the generating station has any transmission equipment forming part of the generation project, the ceiling norms for initial spares for such equipment shall be as per the ceiling norms specified for the transmission system under these Regulations.
- (iii) Where the emission control system is installed, the norms of initial spares specified in this Regulation for coal or lignite based thermal generating stations, as the case may be, shall apply.

**20. ADDITIONAL CAPITALISATION WITHIN ORIGINAL SCOPE AND UPTO THE CUT-OFF DATE**

- (1) The capital expenditure in respect of a new Project or an existing project incurred or projected to be incurred, on the following counts within the original scope of work, after the Date of Commercial Operation and up to the cut-off date may be admitted by the Commission, subject to prudence check:
  - (a) Payment made towards admitted liabilities for works executed upto the cut-off date.
  - (b) Works deferred for execution;
  - (c) Procurement of initial capital spares within the original scope of work, subject to the provisions under Regulation 19 of these Regulations;

- (d) Payment against award of arbitration or for compliance with the directions or order of any statutory authority or order or decree of any court of law;
- (e) Change in law or compliance with any existing law which is not provided for in the original scope of work.
- (f) For uninterrupted and timely development of Hydro projects, expenditure incurred towards developing local infrastructure in the vicinity of the power plant not exceeding Rs. 10 lakh/MW shall be considered as part of capital cost and in case the same work is covered under budgetary support provided by Government of India, the funding of such works shall be adjusted on receipt of such funds;

Provided that such expenditure shall be allowed only if the expenditure is incurred through Indian Governmental Instrumentality;

- (g) Force Majeure events; and
- (h) Any additional works/services, which have become necessary for efficient and successful operation of a generating station but not included in the original capital cost

Provided that in case of any replacement of the assets, the additional capitalisation shall be worked out after adjusting the Gross Fixed Assets and cumulative depreciation of the assets replaced on account of de-capitalization.

Provided further that the assets forming part of the project but not put to use, shall not be considered.

- (2) The Generating Company shall submit the details of works asset wise/work wise included in the original scope of work along with estimates of expenditure, liabilities recognized to be payable at a future date and the works deferred for execution.

## **21. ADDITIONAL CAPITALISATION WITHIN THE ORIGINAL SCOPE AND AFTER CUT-OFF DATE:**

- (1) The additional capital expenditure incurred or projected to be incurred in respect of an existing project or a new project on the following counts within the original scope of work and after the cut-off date may be admitted by the Commission, subject to prudence check:
  - (a) Payment made against award of arbitration or for compliance with the directions or order of any statutory authority or order or decree of any court of law;
  - (b) Change in law or compliance of any existing law which is not provided for in the original scope of work.
  - (c) Deferred works relating to ash pond or ash handling system or raising of ash dyke as part of ash disposal system in the original scope of work;

- (d) Force Majeure events;
  - (e) Works within Original scope executed after the cut-off date and admitted by the Commission, to the extent of actual payments made;
- (2) In case of replacement of assets deployed under the original scope of the existing project after cut-off date, the additional capitalization may be admitted by the Commission, after making necessary adjustments in the gross fixed assets and the cumulative depreciation, subject to prudence check on the following grounds:
- (a) The assets whose useful life is not commensurate with the useful life of the project and such assets have been fully depreciated in accordance with the provisions of these Regulations;
  - (b) The replacement of the asset or equipment is necessary on account of change in law or Force Majeure conditions;
  - (c) The replacement of such asset or equipment is necessary on account of obsolescence of technology; and
  - (d) The replacement of such asset or equipment has otherwise been allowed by the Commission.
  - (e) The additional expenditure, excluding recurring expenses covered in O&M expenses, involved in relation to the renewal of lease of lease hold land on case to case basis.

Provided that any claim of additional capitalisation with respect to the replacement of assets under the original scope and on account of obsolescence of technology, less than Rs. 20 lakhs shall not be considered as part of Capital cost and shall be met through normative O&M expenses.

## **22. ADDITIONAL CAPITALISATION BEYOND THE ORIGINAL SCOPE:**

- (1) The capital expenditure, in respect of existing generating station incurred or projected to be incurred on the following counts beyond the original scope, may be admitted by the Commission, subject to prudence check:
  - (a) Payment made against award of arbitration or for compliance of order or directions of any statutory authority, or order or decree of any court of law;
  - (b) Change in law or compliance of any existing law;
  - (c) Force Majeure events;
  - (d) Need for higher security and safety of the plant as advised or directed by appropriate Indian Governmental Instrumentality or statutory authorities responsible for national or internal security;
  - (e) Deferred works relating to ash pond or ash handling system or raising of ash dyke in addition to the original scope of work, on case to case basis

subject to prudence check of efficient utilization of Ash Pond and 100% utilization of Ash as per MoEF guidelines notified from time to time:

Provided also that if any expenditure has been claimed under Renovation and Modernisation (R&M) or repairs and maintenance under O&M expenses, the same shall not be claimed under this Regulation;

- (f) Usage of water from sewage treatment plant in thermal generating station.
- (g) Works required towards biomass handling system to enable biomass co-firing and towards enabling flexible operation of the generating station as may be required.
- (h) Works pertaining to Railway Infrastructure and its augmentation for transportation of coal up to the receiving end of the generating station (excluding any transportation cost and any other appurtenant cost paid to railways) that are not covered under Regulation 20, 21 and 23, but shall result in better fuel management and can lead to a reduction in operation costs, or shall have other tangible benefits:

Provided that the Generating Company shall have to mandatorily seek prior approval of the Commission before implementing such works based on a detailed cost- benefit analysis of such schemes;

- (i) Any additional capital expenditure which has become necessary for efficient operation of generating station or transmission system as the case may be, including the works required towards projects acquired through NCLT process. The claim shall be substantiated with the technical justification and cost benefit analysis.
- (2) Any claim of additional capitalisation less than Rs. 20 lakhs shall not be considered under Clause (1) of this Regulation and shall be met through normative O&M expenses.
  - (3) In case of de-capitalisation of assets of a Generating Company the original cost of such asset as on the date of de-capitalisation shall be deducted from the value of gross fixed asset and corresponding loan as well as equity shall be deducted from outstanding loan and the equity respectively in the year such de-capitalisation takes place with corresponding adjustments in cumulative depreciation and cumulative repayment of loan, duly taking into consideration the year in which it was capitalised.

Provided that in cases where an asset forming part of a scheme is de-capitalised and wherein the historical value of such asset is not available, the value of de-capitalisation shall be computed by de-escalating the value of the new asset by 5% per year until the year of capitalisation of the old asset subject to a minimum of 10% of the replacement cost of the asset.

## **23. ADDITIONAL CAPITALISATION ON ACCOUNT OF RENOVATION AND MODERNIZATION**

- (1) The Generating Company intending to undertake Renovation and Modernization (R&M) of the generating station or unit thereof for the purpose of extension of life beyond the useful life of the generating station or a unit thereof, shall file a petition before the Commission for approval of the proposal with a Detailed Project Report giving complete scope, justification, cost-benefit analysis, estimated life extension from a reference date, financial package, phasing of expenditure, schedule of completion, reference price level, estimated completion cost including foreign exchange component, if any, and any other information considered to be relevant by the Generating Company.

Provided that the Generating Company making the applications for renovation and modernization (R&M) shall not be eligible for Special Allowance under Regulation 24 of these Regulations;

- (2) Where the Generating Company, makes an application for approval of its proposal for Renovation and Modernization (R&M), the approval may be granted after due consideration of reasonableness of the cost estimates, financing plan, schedule of completion, interest during construction, use of efficient technology, cost-benefit analysis, and such other factors as may be considered relevant by the Commission.
- (3) After completion of the renovation and modernisation (R&M), the Generating Company shall file a petition for determination of tariff. Expenditure incurred or projected to be incurred and admitted by the Commission after a prudence check and after deducting the accumulated depreciation already recovered from the admitted project cost shall form the basis for the determination of tariff.

## **24. SPECIAL ALLOWANCE FOR COAL BASED THERMAL GENERATING STATION**

In the case of coal-based thermal generating stations, the Generating Company, instead of availing Renovation and Modernization (R&M), may opt to avail of a 'Special Allowance' in accordance with the norms specified in this Regulation, as compensation for meeting the requirement of expenses towards any additional capital expenditure covered in Regulations 20, 21, 22 and 23 except for capital expenditure arising out of change in law, award of arbitration or for compliance of the directions or order of any statutory authority, or order or decree of any court of law, and force majeure after completion of 25 years from the date of Commercial operation of the generating station or a unit thereof and in such an event, an upward revision of the Capital Cost shall not be allowed and the applicable operational norms shall not be relaxed but the Special Allowance shall be included in the Annual Fixed Cost:

Provided that such option shall not be available for a generating station or unit thereof for which Renovation and Modernization has been undertaken and the expenditure has been admitted by the Commission before the commencement of these



Regulations, or for a generating station or unit which is in a depleted condition or operating under relaxed operational and performance norms;

- (1) The Special Allowance admissible to a generating station shall be @ Rs 10.75 lakh per MW per year for the tariff period.
- (2) In the event of a generating station availing Special Allowance, the expenditure incurred upon or utilized from Special Allowance shall be maintained separately by the generating station, and details of the same shall be made available to the Commission as and when directed.
- (3) The Special Allowance allowed under this Regulation shall be transferred to a separate fund for utilization towards Renovation & Modernisation and additional capitalisation as per clause (1) above, and the expenditure incurred or utilized from the special allowance shall be made available to the Commission as and when directed.

**25. ADDITIONAL CAPITALIZATION ON ACCOUNT OF REVISED EMISSION STANDARDS:**

- (1) A Generating Company requiring to incur additional capital expenditure in the existing generating station for compliance of the revised emissions standards shall share its proposal with the beneficiaries and file a petition for undertaking such additional capitalization.
- (2) The proposal under clause (1) above shall contain details of proposed technology as specified by the Central Electricity Authority, scope of the work, phasing of expenditure, schedule of completion, estimated completion cost including foreign exchange component, if any, detailed computation of indicative impact on tariff to the beneficiaries, and any other information considered to be relevant by the Generating Company.
- (3) Where the Generating Company makes an application for approval of additional capital expenditure on account of implementation of revised emission standards, the Commission may grant approval after due consideration of the reasonableness of the cost estimates, cost derived through competitive bidding, financing plan, schedule of completion, interest during construction, use of efficient technology, cost-benefit analysis, and such other factors as may be considered relevant by the Commission.
- (4) After completion of the implementation of revised emission standards, the Generating Company shall file a petition for determination of tariff. Any expenditure incurred or projected to be incurred and admitted by the Commission after prudence check based on reasonableness of the cost and impact on operational parameters shall form the basis of determination of tariff.
- (5) Un-discharged liability, if any, on account of the emission control system shall be allowed as additional capital expenditure during the year it is discharged, subject to prudence check.

## 26. DEBT-EQUITY RATIO

- (1) **For new project** the debt-equity ratio of 70:30 as on date of commercial operation shall be considered. If the equity actually deployed is more than 30% of the capital cost, equity in excess of 30% shall be treated as normative loan:

Provided that where actual equity deployed is less than 30%, the actual debt and equity shall be considered for determination of tariff;

Provided further that the equity invested in foreign currency shall be designated in Indian rupees on the date of each investment;

Provided further that any grant obtained for the execution of the project shall not be considered as a part of capital structure for the purpose of Debt:Equity ratio.

**Explanation**-The premium, if any, raised by the Generating Company, while issuing share capital and investment of internal resources created out of its free reserve, for the funding of the project, shall be reckoned as paid up capital for the purpose of computing return on equity, only if such premium amount and internal resources are actually utilised for meeting the capital expenditure of the generating station.

- (2) The Generating Company shall submit resolution of the Board of the Company regarding infusion of funds from internal resources in support of the utilization made or proposed to be made to meet the capital expenditure of the generating station.
- (3) In case of the generating station declared under commercial operation prior to 01.04.2024, debt-equity ratio allowed by the Commission for determination of tariff for the period ending 31.03.2024 shall be considered.

Provided that in case of a generating station which has completed its useful life as on 01.04.2024, or is completing its useful life during the 2024-29 tariff period, if the equity actually deployed is more than 30% of the capital cost, equity in excess of 30% shall not be taken into account for tariff computation;

- (4) Any expenditure incurred or projected to be incurred on or after 01.04.2024 as may be admitted by the Commission as additional capital expenditure for determination of tariff, and Renovation and Modernisation expenditure for life extension, the debt-equity ratio shall be considered in the manner specified in Clause (1) of this Regulation.
- (5) Any expenditure incurred for the emission control system during the tariff period as may be admitted by the Commission as additional capital expenditure for determination of supplementary tariff, shall be serviced in the manner specified in clause (1) of this Regulation.

## 27. SPECIAL PROVISIONS

- (1) In respect of a thermal or hydro generating station that has completed the useful life of the plant or has completed the tenure of the PPA (as applicable), the Generating Company and the beneficiary shall mutually agree on an arrangement, where OERC shall continue to determine energy charge, capacity charges and other charges as specified in these Regulations.
- (2) The beneficiary shall have the first right of refusal and upon its refusal to enter into an arrangement as above, the Generating Company shall be free to sell the electricity generated from such station in a manner as it deems fit.

## 28. RETURN ON EQUITY

- (1) Return on equity shall be computed in rupee terms, on the equity base determined in accordance with Regulations 26 of these Regulations:
- (2) Return on equity shall be computed at the base rate of 14.0% for all thermal generating stations, at the base rate of 15.5% for run-of-river hydro generating station and at the base rate of 16.5% for storage type hydro generation station, pumped storage hydro generating station and run-of-river generating station with pondage;

Provided that return on equity in case of existing generating stations of OPGC (Unit - I & II) and existing hydro stations of OHPC shall be as per the provisions of the PPA.

Provided that return on equity in respect of additional capitalization beyond the original scope excluding additional capitalization on account of emission control system, Change in Law and Force Majeure shall be computed at the base rate of one-year marginal cost of lending rate (MCLR) of the State Bank of India plus 300 basis points as on 1st April of the year, subject to a ceiling of 14%;

Provided further that:

- (a) In case of a **new project**, the rate of return on equity shall be reduced by 1.00% for such period as may be decided by the Commission, if the generating station is found to be declared under commercial operation without Commissioning of any of the Free Governor Mode Operation (FGMO), data telemetry, communication system up to load dispatch centre or protection system based on the confirmation/report submitted by the SLDC;
- (b) In case of **existing generating station**, as and when any of the requirements under (a) above of this Regulation are found lacking based on the confirmation/ report submitted by the SLDC, rate of return on equity shall be reduced by 1.00% for the period for which the deficiency continues;

Provided that if the generator is exempted for FGMO due to its inherent characteristics with due approval from CERC/CEA, there shall be no reduction of base rate of RoE.

(c) In case of a thermal generating station

- (i) rate of return on equity shall be reduced by 0.25% in case of failure to achieve the ramp rate as specified under Regulation 45(9) of CERC(Indian Electricity Grid Code) Regulations, 2023 as amended from time to time, till the Odisha Grid Code Regulations, 2015 is amended.
- (ii) An additional rate of return on equity of 0.125% shall be allowed for every incremental ramp rate of 0.50% per minute achieved over and above the ramp rate specified by Central Electricity Authority, subject to the ceiling of additional rate of return on equity of 1%.

## **29. TAX ON INCOME**

- (1) Income tax of the Generating Company shall be recovered from the beneficiaries. This will exclude income tax on other income streams (income from non-generation business).
- (2) The actual assessment of income tax should take into account benefits of tax holiday and the credit for carry forward losses applicable as per the provisions of the Income Tax Act 1961 and shall be passed on to the consumers.

## **30. INTEREST ON LOAN CAPITAL**

- (1) The loans arrived at in the manner indicated in Regulation 26 shall be considered as gross normative loan for calculation of interest on loan.
- (2) The normative loan outstanding as on 01.04.2024 shall be worked out by deducting the cumulative repayment as admitted by the Commission up to 31.03.2024 from the gross normative loan.
- (3) The loan repayment for each year of the tariff period 2024-2029 shall be deemed to be equal to the depreciation allowed for corresponding year/period. In case of de-capitalization of assets, the repayment shall be adjusted by taking into account cumulative repayment on a pro rata basis and the adjustment should not exceed cumulative depreciation recovered upto the date of de-capitalisation of such asset.
- (4) Notwithstanding any moratorium period availed by the Generating Company the repayment of loan shall be considered from the first year of commercial operation of the project and shall be equal to the annual depreciation allowed for the year or part of the year.
- (5) The rate of interest shall be the weighted average rate of interest calculated on the basis of the actual loan portfolio after providing appropriate accounting adjustment for interest capitalized at the beginning of each year applicable to the project;

Provided that if there is no actual loan for a particular year but normative loan is still outstanding, the last available weighted average rate of interest shall be considered;

Provided further that if the generating station, does not have actual loan, then the weighted average rate of interest of the loan portfolio of the Generating Company as a whole shall be considered.

- (6) The rate of interest on the loan for the installation of the emission control system commissioned subsequent to date of commercial operation of the generating station or unit thereof, shall be the weighted average rate of interest of the actual loan portfolio of the emission control system, and in the absence of the actual loan portfolio, the weighted average rate of interest of the Generating Company as a whole shall be considered, subject to a ceiling of 14%;

Provided that if the Generating Company does not have any actual loan, then the rate of interest for a loan shall be considered as 1-year MCLR of the State Bank of India as applicable as on 1<sup>st</sup> April of the relevant financial year

- (7) The interest on loan shall be calculated on the normative average loan of the respective years by applying the weighted average rate of interest.
- (8) The changes to the terms and conditions of the loans shall be reflected from the date of such re-financing.

### **31. DEPRECIATION**

- (1) Depreciation shall be computed from the date of commercial operation of a generating station or unit thereof. In the case of the tariff of all the units of a generating station for which a single tariff needs to be determined, the depreciation shall be computed from the effective date of commercial operation of the generating station taking into consideration the depreciation of individual units:

Provided that the effective date of commercial operation shall be worked out by considering the actual date of commercial operation and installed capacity of all the units of the generating station, for which a single tariff needs to be determined.

- (2) The value base for the purpose of depreciation shall be the capital cost of the asset admitted by the Commission. In case of multiple units of a generating station, the weighted average life for the generating station shall be applied. Depreciation shall be chargeable from the first year of commercial operation. In the case of commercial operation of the asset for a part of the year, depreciation shall be charged on a pro rata basis.
- (3) The salvage value of the asset shall be considered as 10% and depreciation shall be allowed up to maximum of 90% of the capital cost of the asset;

Provided that the salvage value for IT equipment and software shall be considered as NIL and 100% value of the assets shall be considered depreciable;

Provided that in case of hydro generating stations, the salvage value shall be as provided in the agreement signed by the developers with the State Government for development of the generating station;

Provided further that the capital cost of the assets of the hydro generating station for the purpose of computation of depreciable value shall correspond to the percentage of sale of electricity under long-term power purchase agreement at regulated tariff.

Provided also that any depreciation disallowed on account of lower availability of the generating station or unit, shall not be allowed to be recovered at a later stage during the useful life or the extended life.

- (4) Land other than the land held under lease and the land for reservoir in case of hydro generating station shall not be a depreciable asset and its cost shall be excluded from the capital cost while computing depreciable value of the asset.
- (5) Depreciation for existing project shall be calculated annually based on Straight Line Method (SLM) and at rates specified in Appendix-A to these Regulations for the assets of the generating station;

Provided that, the remaining depreciable value as on 31st March of the year closing after a period of fifteen (15) years from effective date of commercial operation shall be spread over the balance useful life of the assets;

Provided that for existing Hydro generating plants of OHPC as per the directions of the High Court of Orissa, depreciation will be calculated at pre-1992 norms notified by Government of India on the book value of the assets or loan repayment linked to that asset, whichever is higher;

Provided further that in the case of an existing hydro generating station, the Generating Company, with the consent of the beneficiaries, may charge depreciation at a rate lower than that specified in Appendix A to these Regulations to reduce front loading of tariff.

Provided further that for existing plants of OPGC (UNIT-I & II), the applicable depreciation rate for the assets of the generating station shall be as determined by the Commission from time to time.

- (6) Depreciation **for New Projects** shall be calculated annually based on the Straight Line Method (SLM) and at rates specified in **Appendix-A** to these Regulations for the assets of the generating station:

Provided that the remaining depreciable value as on 31st March of the year closing after a period of 15 years from the effective date of commercial operation of the generating station, shall be spread over the balance useful life of the assets.

Provided further that in the case of a new hydro generating stations, the Generating Company, with the consent of the beneficiaries, may charge depreciation at a rate lower than that specified in Appendix A to these Regulations to reduce front loading of tariff.

- (7) In case of the **existing projects**, the balance depreciable value as on 01.04.2024 shall be worked out by deducting the cumulative depreciation as admitted by the Commission upto 31.03.2024 from the gross depreciable value of the assets.

- (8) The Generating Company shall submit the details of capital expenditure proposed to be incurred during five years before the completion of useful life along with proper justification and proposed life extension. The Commission, based on prudence check of such submissions, shall approve the depreciation by equally spreading the depreciable value over the balance Operational Life of the generating station or unit thereof or fifteen (15) years, whichever is lower.
- (9) In case of de-capitalization of assets in respect of generating station or unit thereof, the cumulative depreciation shall be adjusted by taking into account the depreciation recovered in tariff by the de-capitalised asset during its useful service.
- (10) Where the Emission Control System (ECS) is implemented within the original scope of the generating station and the date of commercial operation of the generating station or unit thereof and the date of operation of the emission control system are the same, depreciation of the generating station or unit thereof including the emission control system shall be computed in accordance with Clauses (1) to (9) of this Regulation.
- (11) Depreciation of the ECS of an existing generating station that is yet to complete its useful life or a new generating station or unit thereof where the date of operation of the ECS is subsequent to the date of commercial operation of the generating station or unit thereof, shall be computed annually from the date of operation of such emission control system based on the Straight Line Method (SLM) at rates specified in Appendix- A to these Regulations;

Provided that the remaining depreciable value as on 31st March of the year closing after a period of 12 years from the date of operation of such ECS shall be spread over the balance period of thirteen years or balance operational life of generating station, whichever is lower;

Provided also that in case the date of operation of the emission control system is after the 20<sup>th</sup> year of commercial operation of the generating station or unit thereof, but before the completion of the useful life of the generating station, the depreciation on Emission Control System (ECS) shall be computed annually from the date of operation of such ECS based on the straight line method, with a salvage value of 10% and the depreciable value shall be recovered till the operational life of the generating station.

- (12) In case the date of operation of the ECS is subsequent to the date of completion of the useful life of generating station commercial operation of the generating station or unit thereof, depreciation of ECS shall be computed annually from the date of operation of such ECS based on the Straight Line Method (SLM) with a salvage value of 10% and recovered over ten (10) years or a period mutually agreed by the Generating Company and the beneficiaries, whichever is higher.

### **32. INTEREST ON WORKING CAPITAL**

- (1) The working capital shall cover:
  - (a) **For Coal-based thermal generating stations**

- (i) Cost of coal, if applicable, for ten (10) days for pit-head generating stations and twenty (20) days for non-pit-head generating stations, for generation corresponding to the Normative Annual Plant Availability Factor or the maximum coal stock storage capacity, whichever is lower;
  - (ii) Lime stone towards stock for 15 days corresponding to normative annual plant availability.
  - (iii) Advance payment for thirty (30) days towards cost of coal and limestone for generation corresponding to the Normative Annual Plant Availability Factor;
  - (iv) Cost of secondary fuel oil for one month for generation corresponding to the Normative Annual Plant Availability Factor, and in case of use of more than one secondary fuel oil, cost of fuel oil stock for the main secondary fuel oil;
  - (v) Maintenance spares @ 20% of operation and maintenance expenses specified in Regulation 34(1) including water charges.
  - (vi) Receivables equivalent to forty-five (45) days of capacity charges and energy charges for sale of electricity calculated on the normative annual plant availability factor; and
  - (vii) Operation & Maintenance (O&M) expenses and water charges for one(1) month.
- (b) **For Emission Control System (ECS) of coal based thermal generating stations:**
- (i) Cost of limestone or reagent towards stock for 20 days corresponding to the Normative Annual Plant Availability Factor;
  - (ii) Advance payment for 30 days towards the cost of reagent for generation corresponding to the Normative Annual Plant Availability Factor;
  - (iii) Receivables equivalent to 45 days of supplementary capacity charge and supplementary energy charge for the sale of electricity calculated on the Normative Annual Plant Availability Factor;
  - (iv) Operation & Maintenance expenses in respect of the ECS for one month;
  - (v) Maintenance spares @20% of operation and maintenance expenses in respect of ECS;
- (c) **For hydro generating stations including pumped storage hydro-electric generating station**
- (i) Receivables equivalent to forty five (45) days of fixed cost;



- (ii) Maintenance spares @ 15% of Operation & Maintenance (O&M) expenses specified in Regulation 34 (1);
  - (iii) Operation and maintenance expenses for one month.
- (2) The cost of fuel in cases covered under Regulation 1(a) of this Regulation shall be based on the landed fuel cost incurred (taking into account normative transit and handling losses in terms of Regulation 38 of these Regulations) by the generating station and gross calorific value of the fuel as per actual weighted average for the preceding financial year in case of each financial year for which tariff is to be determined and no fuel price escalation shall be provided during the tariff period.

Provided that in case of new generating station, the cost of fuel for the first financial year shall be considered based on landed fuel cost (taking into account normative transit and handling losses in terms of Regulation 38 of these Regulations) and gross calorific value of the fuel as per actual weighted average for three (3) months, as used for infirm power, preceding date of commercial operation for which tariff is to be determined.

- (3) Rate of interest on working capital shall be on a normative basis and shall be equal to the one year marginal cost of lending rate (MCLR) of the State Bank of India issued as on 01.04.2024 or on 1st April of the year during the tariff period 2024-2029 in which the generating station or a unit thereof, is declared under commercial operation, whichever is later, plus 300 basis points.

Provided that in case of truing-up, the rate of interest on working capital shall be considered at the one year marginal cost of lending rate (MCLR) of the State Bank of India issued as on 1st April of each of the financial year during the tariff period 2024-29, plus 300 basis points.

- (4) Interest on working capital shall be payable on normative basis notwithstanding that the Generating Company has not taken loan for working capital from any outside agency.

### **33. DE-COMMISSIONING**

In case a generating station or unit thereof, after it is certified by CEA or any other statutory authority, that any asset cannot be operated or needs to be replaced on account of environmental concerns or safety issues or system upgradation or a combination of these factors not attributable to Generating Company, the unrecovered depreciable value may be allowed to be recovered on a case-to-case basis after duly adjusting the salvage value or realisation value, whichever is higher, post disposal of such project.

Provided that the manner of recovery, including a number of instalments in which such unrecovered depreciation will be allowed, shall be specified by the Commission on a case-to-case basis.

Provided further that no carrying cost shall be allowed on any delay associated with such recovery.

### 34. OPERATION AND MAINTENANCE (O&M) EXPENSES

#### (1) Thermal Generating station(s)

Normative Operation and Maintenance expenses of thermal Generating station(s) including security expenses shall be as follows:

#### (a) Coal based (including those based on Circulating Fluidised Bed Combustion (CFBC) technology) generating stations:

Year	(Rs. in Lakh/MW)				
	200/210/250 MW series	300/330/350 MW series	500 MW series	600 MW series	800 MW series and above
2024-25	40.92	34.04	27.17	25.78	23.20
2025-26	43.07	35.83	28.60	27.13	24.42
2026-27	45.33	37.71	30.10	28.56	25.70
2027-28	47.71	39.69	31.68	30.06	27.05
2028-29	50.21	41.78	33.34	31.64	28.47

Provided also that O&M expenses of generating station having a unit size of less than 200 MW not covered above shall be determined on a case-to-case basis.

#### (b) The Water Charges, Ash Transportation Expenses and Capital Spares for thermal generating stations shall be allowed separately after prudence check:

Provided that water charges shall be allowed based on water consumption depending upon type of plant and type of cooling water system or water agreement with state govt./utilities, subject to actual paid charges to state govt./utilities and the norms specified by the Ministry of Environment, Forest and Climate Change subject to prudence check. The details regarding the same shall be furnished along with the petition;

Provided also that the generating station shall submit the details of year-wise actual capital spares consumed individually costing above Rs. 10 Lakh at the time of truing up with appropriate justification for incurring the same and substantiating that the same is not funded through compensatory allowance as per Regulation 17 of Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 or Special Allowance or claimed as a part of additional capitalisation or consumption of stores and spares and renovation and modernization.

Provided that where the date of commercial operation of any additional unit(s) of a generating station after first four units occurs on or after 01.04.2024, the O&M expenses of such additional unit(s) shall be admissible at 90% of the operation and maintenance expenses as specified above;

#### (c) Any additional O&M expenses incurred by the Generating Company due to any change in law shall be considered at the time of truing up of tariff.

Provided that such impact shall be allowed only in case the overall impact of such change in law event in a year is more than 5% of normative O&M expenses of the project allowed for the year.

- (d) In the case of a Generating Company owned by the Central or State Government, the impact on account of implementation of wage or pay revision shall be allowed at the time of truing up of tariff.
- (e) The operation and maintenance expenses on account of emission control systems in coal based thermal generating stations shall be 2% of the admitted capital expenditure (excluding IDC and IEDC) as on its date of operation, which shall be escalated annually @ 5.25% during the tariff period ending on 31st March 2029:

Provided that income generated from the sale of gypsum or other by-products shall be reduced from the operation and maintenance expense

- (f) O&M norms for the existing plants of OPGC (UNIT-I & II) shall be as determined by the Commission from time to time.

**(2) Hydro generating station:**

The following O&M expense norms shall be applicable for hydro generating stations;

- (a) In case of the hydro generating stations including pumped storage hydro generating stations declared under commercial operation on or after 01.04.2024, Operation & Maintenance expenses shall be fixed at 3.5% of the original project cost (excluding cost of rehabilitation & resettlement works, IDC & IEDC) and shall be subject to annual escalation of 5.47% per annum for the subsequent years.
- (b) In the case of hydro generating stations which have not completed a period of three years as on 01.04.2024, operation and maintenance expenses for 2024-25 shall be worked out by applying an escalation rate of 5.47% on the applicable operation and maintenance expenses as on 31.03.2024. The operation and maintenance expenses for subsequent years of the tariff period shall be worked out by applying an escalation rate of 5.47% per annum.
- (c) The Capital Spares and Insurance expenses arrived through competitive bidding for hydro generating stations shall be allowed separately after prudence check:

Provided that the generating station shall submit the assessment of the capital spares and insurance expenses along with its estimated expenses, which shall be trued up based on the details of year-wise actual capital spares consumed and actual insurance expenses incurred with appropriate justification.

Provided further that the value of capital spares exceeding Rs. 10 lakhs shall only be considered for reimbursement at the time of truing up with appropriate justification for incurring the same and substantiating that the same is not claimed as a part of additional capitalisation or consumption of stores and spares and renovation and modernization.

- (d) Any additional O&M expenses incurred by the Generating Company due to any change in law event shall be considered at the time of truing up of tariff.

Provided that such impact shall be allowed only in case the overall impact of such change in law event in a year is more than 5% of normative O&M expenses of the project for the year.

- (e) In the case of a Generating Company owned by the Central or State Government, the impact on account of implementation of wage or pay revision shall be allowed at the time of truing up of tariff;
- (f) O&M norms for the existing plants of OHPC will be as determined by the Commission from time to time.

### 35. NON-TARIFF INCOME

- (1) The amount of Non-Tariff Income of the Generating Company as approved by the Commission in accordance with Regulation 60 of these Regulations shall be deducted while determining its Annual Fixed Cost:

Provided that the Generating Company shall submit full details of its forecast of Non-Tariff Income to the Commission in such form as may be stipulated by the Commission.

- (2) The Non-Tariff Income shall include:
- (a) Income from rent of land or buildings;
  - (b) Income from sale of scrap;
  - (c) Income from investments;
  - (d) Income from sale of ash/rejected coal;
  - (e) Interest income on advances to suppliers/contractors;
  - (f) Net Income from supply of electricity by the Generating Company to the housing colonies of its operating staff and supply of electricity by the Generating Company for construction works at the generating Station, after adjusting the expenses incurred for supply of such electricity;
  - (g) Income from rental from staff quarters;
  - (h) Income from rental from contractors;
  - (i) Income from hire charges from contractors and others;
  - (j) Income from advertisements;
  - (k) Income from sale of tender documents;
  - (l) Net-Income from Eco-Tourism Activities;
  - (m) Any other Non-Tariff Income.

Provided further that all supply of electricity by the Generating Company to the housing colonies of its operating staff and for construction works at the generating Station, shall be metered and billed separately:

Provided also that the tariff for supply of electricity by the Generating Company to the housing colonies of its operating staff and supply of electricity by the Generating Company for construction works at the generating Station, shall be the same as the Tariff approved by the Commission for the supply of electricity to the respective consumer category by the Distribution Licensee for that area of supply.

## CHAPTER- 6

### COMPUTATION OF CAPACITY CHARGE & ENERGY CHARGE

#### 36. ENERGY CHARGES & SUPPLEMENTARY ENERGY CHARGES

The Energy charges and supplementary energy charge in respect of thermal generating stations shall comprise of the following costs:

- (a) Landed Fuel Cost of primary fuel;
- (b) Cost of secondary fuel oil consumption; and
- (c) Cost of reagents on account of the implementation of the revised emission standards:

Provided that any refund of taxes and duties along with any amount received on account of penalties from the fuel supplier shall be adjusted in fuel cost.

#### 37. LANDED FUEL COST OF PRIMARY FUEL:

The landed fuel cost of primary fuel for any month shall consist of base price or input price of fuel corresponding to the grade and quality of fuel and shall be inclusive of statutory charges as applicable, washery charges, transportation cost by rail or road or any other means and loading, unloading and handling charges;

Provided that procurement of fuel at a price other than Government notified prices may be considered, if it is based on competitive bidding through transparent process or as approved by OERC;

Provided further that landed fuel cost of primary fuel shall be worked out based on the actual bill paid by the Generating Company including any adjustment on account of quantity and quality;

Provided also that in case of coal-fired based thermal generating station, the Gross Calorific Value shall be measured by third party sampling and the expenses towards the third party sampling facility shall be reimbursed by the beneficiaries.

#### 38. TRANSIT AND HANDLING LOSSES:

For coal, the transit and handling losses shall be as per the following norms:-

Thermal Generating Station	Transit and Handling Loss (%)
Pit head station	0.2%
Non-pit head stations- All Rail route	0.8%
Non-pit head multi-modal transportation (using two or more than two mode of transport involving multiple trans-shipments)	1%

Provided further that in case of pit-head stations, if coal is procured from sources other than the pit-head mines which is transported to the station through rail, transit and handling losses applicable for non-pit head station shall apply;

Provided further that in case of imported coal, the transit and handling losses applicable for pit-head station shall apply.

### **39. GROSS CALORIFIC VALUE OF PRIMARY FUEL:**

- (a) The gross calorific value for computation of energy charges as per Regulation 44 shall be done in accordance with '**GCV as received**' basis as per Regulation 3(ii).
- (b) The Generating Company shall provide to the beneficiaries of the generating station the details in respect of GCV and price of fuel i.e. domestic coal, imported coal, e-auction coal, liquid fuel etc., as per the Format prescribed by the Commission.

Provided further that the details of blending ratio of the imported coal with domestic coal, proportion of e-auction coal and the weighted average GCV of the primary fuels on "as received" basis used for generation during the period shall also be provided, along with the bills of the respective month:

### **40. LANDED COST OF REAGENT:**

- (a) Where specific reagents such as Limestone, Sodium Bi-Carbonate, Urea or Anhydrous Ammonia are used during operation of emission control system for meeting revised emission standards, the landed cost of such reagents shall be determined based on normative consumption and purchase price of the reagent through competitive bidding, applicable statutory charges and transportation cost.
- (b) The normative consumption of specific reagent for the various technologies installed for meeting revised emission standards shall be as specified in Regulation 49(g) of these Regulations.

- 41.** The computation and payment of capacity charge and energy charge for existing plants of OPGC (UNIT-I & II) will be as per the provisions of the PPA and the provisions of these Regulations as determined by the Commission based of the information/ data submitted by the Generating Company.

### **42. COMPUTATION AND PAYMENT OF CAPACITY CHARGE FOR THERMAL GENERATING STATIONS**

- (1) The fixed cost of a thermal generating station shall be computed on annual basis, based on norms specified under these Regulations, and recovered on monthly basis under capacity charge. The total capacity charge payable for a generating station shall be shared by its beneficiaries as per their respective percentage share/ allocation in the capacity of the generating station. The capacity charge shall be recovered as follows in two parts, viz., Capacity Charge for Peak Hours of the month and Capacity Charge for Off- Peak Hours of the month:

- (2) The Capacity Charge payable to a thermal generating station for a calendar month shall be calculated in accordance with the following formulae:

Capacity Charge for the Month ( $CC_n$ ) =

Capacity Charge for Peak Hours of the Month ( $CC_{pn}$ ) +

Capacity Charge for Off-Peak Hours of the Month ( $CC_{opn}$ )

Where,

$$CC_{p1} = [(0.20 \times AFC) \times (1/12) \times (PAFM_{p1}/NAPAF) \text{ subject to ceiling of } \{(0.20 \times AFC) \times (1/12)\}]$$

$$CC_{p2} = [(0.20 \times AFC) \times (1/6) \times (PAFM_{p2}/NAPAF) \text{ subject to ceiling of } \{(0.20 \times AFC) \times (1/6)\}] - CC_{p1}$$

$$CC_{p3} = [(0.20 \times AFC) \times (1/4) \times (PAFM_{p3}/NAPAF) \text{ subject to ceiling of } \{(0.20 \times AFC) \times (1/4)\}] - (CC_{p1} + CC_{p2})$$

$$CC_{p4} = [(0.20 \times AFC) \times (1/3) \times (PAFM_{p4}/NAPAF) \text{ subject to ceiling of } \{(0.20 \times AFC) \times (1/3)\}] - (CC_{p1} + CC_{p2} + CC_{p3})$$

$$CC_{p5} = [(0.20 \times AFC) \times (5/12) \times (PAFM_{p5}/NAPAF) \text{ subject to ceiling of } \{(0.20 \times AFC) \times (5/12)\}] - (CC_{p1} + CC_{p2} + CC_{p3} + CC_{p4})$$

$$CC_{p6} = [(0.20 \times AFC) \times (1/2) \times (PAFM_{p6}/NAPAF) \text{ subject to ceiling of } \{(0.20 \times AFC) \times (1/2)\}] - (CC_{p1} + CC_{p2} + CC_{p3} + CC_{p4} + CC_{p5})$$

$$CC_{p7} = [(0.20 \times AFC) \times (7/12) \times (PAFM_{p7}/NAPAF) \text{ subject to ceiling of } \{(0.20 \times AFC) \times (7/12)\}] - (CC_{p1} + CC_{p2} + CC_{p3} + CC_{p4} + CC_{p5} + CC_{p6})$$

$$CC_{p8} = [(0.20 \times AFC) \times (2/3) \times (PAFM_{p8}/NAPAF) \text{ subject to ceiling of } \{(0.20 \times AFC) \times (2/3)\}] - (CC_{p1} + CC_{p2} + CC_{p3} + CC_{p4} + CC_{p5} + CC_{p6} + CC_{p7})$$

$$CC_{p9} = [(0.20 \times AFC) \times (3/4) \times (PAFM_{p9}/NAPAF) \text{ subject to ceiling of } \{(0.20 \times AFC) \times (3/4)\}] - (CC_{p1} + CC_{p2} + CC_{p3} + CC_{p4} + CC_{p5} + CC_{p6} + CC_{p7} + CC_{p8})$$

$$CC_{p10} = [(0.20 \times AFC) \times (5/6) \times (PAFM_{p10}/NAPAF) \text{ subject to ceiling of } \{(0.20 \times AFC) \times (5/6)\}] - (CC_{p1} + CC_{p2} + CC_{p3} + CC_{p4} + CC_{p5} + CC_{p6} + CC_{p7} + CC_{p8} + CC_{p9})$$

$$CC_{p11} = [(0.20 \times AFC) \times (11/12) \times (PAFM_{p12}/NAPAF) \text{ subject to ceiling of } \{(0.20 \times AFC) \times (11/12)\}] - (CC_{p1} + CC_{p2} + CC_{p3} + CC_{p4} + CC_{p5} + CC_{p6} + CC_{p7} + CC_{p8} + CC_{p9} + CC_{p10})$$

$$CC_{p12} = [(0.20 \times AFC) \times (PAFM_{p12}/NAPAF) \text{ subject to ceiling of } (0.20 \times AFC)] - (CC_{p1} + CC_{p2} + CC_{p3} + CC_{p4} + CC_{p5} + CC_{p6} + CC_{p7} + CC_{p8} + CC_{p9} + CC_{p10} + CC_{p11})$$

$$CC_{op1} = (0.80 \times AFC) \times (1/12) \times (PAFM_{op1}/NAPAF) \text{ subject to ceiling of } \{(0.80 \times AFC) \times (1/12)\}$$



$$CC_{op2} = [(0.80 \times AFC) \times (1/6) \times (PAFM_{op2}/NAPAF) \text{ subject to ceiling of } \{(0.80 \times AFC) \times (1/6)\}] - CC_{op1}$$

$$CC_{op3} = [(0.80 \times AFC) \times (1/4) \times (PAFM_{op3}/NAPAF) \text{ subject to ceiling of } \{(0.80 \times AFC) \times (1/4)\}] - (CC_{op1} + CC_{op2})$$

$$CC_{op4} = [(0.80 \times AFC) \times (1/3) \times (PAFM_{op4}/NAPAF) \text{ subject to ceiling of } \{(0.80 \times AFC) \times (1/3)\}] - (CC_{op1} + CC_{op2} + CC_{op3})$$

$$CC_{op5} = [(0.80 \times AFC) \times (5/12) \times (PAFM_{op5}/NAPAF) \text{ subject to ceiling of } \{(0.80 \times AFC) \times (5/12)\}] - (CC_{op1} + CC_{op2} + CC_{op3} + CC_{op4})$$

$$CC_{op6} = [(0.80 \times AFC) \times (1/2) \times (PAFM_{op6}/NAPAF) \text{ subject to ceiling of } \{(0.80 \times AFC) \times (1/2)\}] - (CC_{op1} + CC_{op2} + CC_{op3} + CC_{op4} + CC_{op5})$$

$$CC_{op7} = [(0.80 \times AFC) \times (7/12) \times (PAFM_{op7}/NAPAF) \text{ subject to ceiling of } \{(0.80 \times AFC) \times (7/12)\}] - ((CC_{op1} + CC_{op2} + CC_{op3} + CC_{op4} + CC_{op5} + CC_{op6}))$$

$$CC_{op8} = [(0.80 \times AFC) \times (2/3) \times (PAFM_{op8}/NAPAF) \text{ subject to ceiling of } \{(0.80 \times AFC) \times (2/3)\}] - (CC_{op1} + CC_{op2} + CC_{op3} + CC_{op4} + CC_{op5} + CC_{op6} + CC_{op7})$$

$$CC_{op9} = [(0.80 \times AFC) \times (3/4) \times (PAFM_{op9}/NAPAF) \text{ subject to ceiling of } \{(0.80 \times AFC) \times (3/4)\}] - (CC_{op1} + CC_{op2} + CC_{op3} + CC_{op4} + CC_{op5} + CC_{op6} + CC_{op7} + CC_{op8})$$

$$CC_{op10} = [(0.80 \times AFC) \times (5/6) \times (PAFM_{op10}/NAPAF) \text{ subject to ceiling of } \{(0.80 \times AFC) \times (5/6)\}] - (CC_{op1} + CC_{op2} + CC_{op3} + CC_{op4} + CC_{op5} + CC_{op6} + CC_{op7} + CC_{op8} + CC_{op9})$$

$$CC_{op11} = [(0.80 \times AFC) \times (11/12) \times (PAFM_{op12}/NAPAF) \text{ subject to ceiling of } \{(0.80 \times AFC) \times (11/12)\}] - (CC_{op1} + CC_{op2} + CC_{op3} + CC_{op4} + CC_{op5} + CC_{op6} + CC_{op7} + CC_{op8} + CC_{op9} + CC_{op10})$$

$$CC_{op12} = [(0.80 \times AFC) \times (PAFM_{op12}/NAPAF) \text{ subject to ceiling of } (0.80 \times AFC)] - (CC_{op1} + CC_{op2} + CC_{op3} + CC_{op4} + CC_{op5} + CC_{op6} + CC_{op7} + CC_{op8} + CC_{op9} + CC_{op10} + CC_{op11})$$

Where,

$CC_m$  = Capacity Charge for the Month;

$CC_p$  = Capacity Charge for the Peak Hours of the Month;

$CC_{op}$  = Capacity Charge for the Off-Peak Hours of the Month;

$CC_{pn}$  = Capacity Charge for the Peak Hours of  $n^{th}$  Month;

$CC_{opn}$  = Capacity Charge for the Off-Peak Hours of  $n^{th}$  Month;

$AFC$  = Annual Fixed Cost;

$PAFM_{pn}$  = Plant Availability Factor achieved during Peak Hours up to the end of  $n^{th}$  Month;

$PAFM_{\text{opn}}$  = Plant Availability Factor achieved during Off-Peak Hours upto the end of nth Month;

NAPAF = Normative Annual Plant Availability Factor.

Provided that in case of generating station or unit thereof is under shutdown due to Renovation and Modernisation or installation of emission control system, as the case may be, the Generating Company shall be allowed to recover part of the AFC which shall include O&M expenses and interest on loan only.

- (3) Normative Plant Availability Factor for “Peak” and “Off-Peak” Hours in a month shall be equivalent to the NAPAF specified in Regulation 49(1)(a) of these Regulations. The number of hours of "Peak" during a day shall be as mentioned in the RST Order and "Off-Peak" hours shall be the hours other than peak hours during a day.

Provided that the Commission may modify the “peak” and “off-peak” hours from time to time.

Provided that the shortfall in recovery of Capacity Charge for cumulative Off-Peak Hours derived based on NAPAF shall be allowed to be off-set by over-achievement of PAF, if any, and consequent notional over-recovery of Capacity Charge for cumulative Peak Hours.

Provided that the shortfall in recovery of Capacity Charge for cumulative Peak Hours derived based on NAPAF, shall not be allowed to be off-set by over-achievement of PAF, if any, and consequent notional over-recovery of Capacity Charge for cumulative Off-Peak Hours.

- (4) The Plant Availability Factor achieved for a Month (PAFM) shall be computed in accordance with the following formula:

$$PAFM = 10000 \times \sum_{i=1}^n \frac{DCi}{[N \times IC \times (100 - AUXn - AUXen)] \%}$$

Where,

AUXn=Normative auxiliary energy consumption in percentage;

AUXen= Normative auxiliary energy consumption for emission control system as a percentage of gross energy generation, wherever applicable;

DCi = Average declared capacity (in ex-bus MW), for the  $i^{\text{th}}$  day of the period i.e. the month or the year as the case may be, as certified by the SLDC after the day is over.

IC = Installed Capacity (in MW) of the generating station

N= Number of days during the period.

Note: DCi and IC shall exclude the capacity of generating units not declared under commercial operation. In case of a change in IC during the concerned period, its average value shall be taken.

- (5) In addition to the AFC entitlement as computed above, the thermal generating station shall be allowed an incentive of up to 1.00% of AFC approved for a given year, which shall be billed monthly as per the following:

$$\text{Incentive} = (1.00\% \times \beta \times \text{CCy})/12$$

Where,

$\beta$  = Average Monthly Frequency Response Performance for that generating station, as certified by SLDC, which shall be computed by considering primary response as per the methodology prescribed by the NLDC with approval of the Commission, and  $\beta$  shall range between 0 to 1.

Provided that the incentive shall be payable only if the Beta ( $\beta$ ) value is higher than 0.30.

CCy= Capacity Charges for the Year.

- (6) In addition to the capacity charge, an incentive shall be payable to a generating station or unit thereof @ fifty (55) paise/ kWh for ex-bus scheduled energy during Peak Hours and @ forty (40) paise/ kWh for ex-bus scheduled energy during Off-Peak Hours corresponding to scheduled generation in excess of ex-bus energy corresponding to Normative Annual Plant Load Factor (NAPLF) achieved on a cumulative basis as specified in Regulation 49 of these Regulations.
- (7) Incentives applicable and payable to the existing plants of OPGC (Unit-I & II) and OHPC will be as determined by the Commission from time to time.

#### **43. COMPUTATION AND PAYMENT OF SUPPLEMENTARY CAPACITY CHARGE FOR COAL BASED THERMAL GENERATING STATIONS:**

- (1) The fixed cost of the emission control system shall be computed on an annual basis based on the norms specified under these Regulations and recovered on a monthly basis under a supplementary capacity charge. The total supplementary capacity charge is payable to a generating station shall be shared by its beneficiaries as per their respective percentage share or allocation in the capacity of the generating station.
- (2) The Supplementary Capacity Charge payable to a coal generating station for a calendar month shall be calculated in accordance with the following formulae:

$$\begin{aligned}
\text{SCC1} &= (\text{AFCe}) \times (1/12) \times (\text{PAFM1/NAPAF}) \text{ subject to ceiling of } \{(\text{AFCe}) \times (1/12)\} \\
\text{SCC2} &= [(\text{AFCe}) \times (1/6) \times (\text{PAFM2/NAPAF}) \text{ subject to ceiling of } \{(\text{AFCe}) \times (1/6)\}] - \text{SCC1} \\
\text{SCC3} &= [(\text{AFCe}) \times (1/4) \times (\text{PAFM3/NAPAF}) \text{ subject to ceiling of } \{(\text{AFCe}) \times (1/4)\}] - (\text{SCC1} + \text{SCC2}) \\
\text{SCC4} &= [(\text{AFCe}) \times (1/3) \times (\text{PAFM4/NAPAF}) \text{ subject to ceiling of } \{(\text{AFCe}) \times (1/3)\}] - (\text{SCC1} + \text{SCC2} + \text{SCC3}) \\
\text{SCC5} &= [(\text{AFCe}) \times (5/12) \times (\text{PAFM5/NAPAF}) \text{ subject to ceiling of } \{(\text{AFCe}) \times (5/12)\}] - (\text{SCC1} + \text{SCC2} + \text{SCC3} + \text{SCC4}) \\
\text{SCC6} &= [(\text{AFCe}) \times (1/2) \times (\text{PAFM6/NAPAF}) \text{ subject to ceiling of } \{(\text{AFCe}) \times (1/2)\}] - (\text{SCC1} + \text{SCC2} + \text{SCC3} + \text{SCC4} + \text{SCC5}) \\
\text{SCC7} &= [(\text{AFCe}) \times (7/12) \times (\text{PAFM7/NAPAF}) \text{ subject to ceiling of } \{(\text{AFCe}) \times (7/12)\}] - (\text{SCC1} + \text{SCC2} + \text{SCC3} + \text{SCC4} + \text{SCC5} + \text{SCC6}) \\
\text{SCC8} &= [(\text{AFCe}) \times (2/3) \times (\text{PAFM8/NAPAF}) \text{ subject to ceiling of } \{(\text{AFCe}) \times (2/3)\}] - (\text{SCC1} + \text{SCC2} + \text{SCC3} + \text{SCC4} + \text{SCC5} + \text{SCC6} + \text{SCC7}) \\
\text{SCC9} &= [(\text{AFCe}) \times (3/4) \times (\text{PAFM9/NAPAF}) \text{ subject to ceiling of } \{(\text{AFCe}) \times (3/4)\}] - (\text{SCC1} + \text{SCC2} + \text{SCC3} + \text{SCC4} + \text{SCC5} + \text{SCC6} + \text{SCC7} + \text{SCC8}) \\
\text{SCC10} &= [(\text{AFCe}) \times (5/6) \times (\text{PAFM10/NAPAF}) \text{ subject to ceiling of } \{(\text{AFCe}) \times (5/6)\}] - (\text{SCC1} + \text{SCC2} + \text{SCC3} + \text{SCC4} + \text{SCC5} + \text{SCC6} + \text{SCC7} + \text{SCC8} + \text{SCC9}) \\
\text{SCC11} &= [(\text{AFCe}) \times (11/12) \times (\text{PAFM11/NAPAF}) \text{ subject to ceiling of } \{(\text{AFCe}) \times (11/12)\}] - (\text{SCC1} + \text{SCC2} + \text{SCC3} + \text{SCC4} + \text{SCC5} + \text{SCC6} + \text{SCC7} + \text{SCC8} + \text{SCC9} + \text{SCC10}) \\
\text{SCC12} &= [(\text{AFCe}) \times (\text{PAFM12/NAPAF}) \text{ subject to ceiling of } (\text{AFCe})] - (\text{SCC1} + \text{SCC2} + \text{SCC3} + \text{SCC4} + \text{SCC5} + \text{SCC6} + \text{SCC7} + \text{SCC8} + \text{SCC9} + \text{SCC10} + \text{SCC11})
\end{aligned}$$

Where,

SCCn= Supplementary Capacity Charge for the nth Month;  
 AFCe = Annual Fixed Cost of the emission control system;  
 PAFMn= Plant Availability Factor achieved up to the end of nth Month;  
 NAPAF= Normative Annual Plant Availability Factor.

Provided that in case of the generating station or unit thereof under shutdown due to Renovation and Modernisation, the Generating Company shall be allowed to

recover O&M expenses and interest on the loan in respect of the emission control system only.

- (3) Normative Plant Availability Factor for a month for the purpose of Supplementary Capacity Charge shall be considered in the manner specified in Clause (3) of Regulation 42 of these Regulations. The PAFM shall be worked out in accordance with Clause (4) of Regulation 42 of these Regulations.

**44. COMPUTATION AND PAYMENT OF ENERGY CHARGE AND SUPPLEMENTARY ENERGY CHARGE FOR COAL BASED THERMAL GENERATING STATIONS:**

- (1) The energy charge shall cover the primary and secondary fuel cost and limestone consumption cost (where applicable) and shall be payable by every beneficiary for the total energy scheduled to be supplied to such beneficiary during the calendar month on an ex-power plant basis, at the energy charge rate of the month (with fuel and limestone price adjustment). The total Energy charge payable to the Generating Company for a month shall be:

Energy Charges = (Energy charge rate in Rs./kWh) x {Scheduled energy (ex-bus) for the month in kWh}

- (2) The supplementary energy charge on account of the emission control system shall cover the differential energy charges due to auxiliary energy consumption and cost of reagent consumption and shall be payable by every beneficiary for the total energy scheduled to be supplied to such beneficiary during the calendar month on an ex-power plant basis, at the supplementary energy charge rate of the month. The total supplementary energy charge payable to the Generating Company for a month shall be:

Supplementary Energy Charges = (Supplementary energy charge rate in Rs./kWh) x {Scheduled energy (ex-bus) for the month in kWh}

- (3) Energy charge rate (ECR) and Supplementary Energy charge rate in Rupees per kWh on ex-power plant basis shall be determined to three decimal places in accordance with the following formulae:

- (a) ECR for coal based thermal generating stations:

$$ECR = \{[(SHR - SFC \times CVSF) \times LPPF / CVPF] + (SFC \times LPSFi) + (LC \times LPL)\} \times 100 / (100 - AUX)$$

- (b) Supplementary ECR for coal based thermal generating stations:

$$\text{Supplementary ECR} = (\Delta ECR) + [(SRC \times LPR / 10) / (100 - (AUX_n + AUX_{en}))]$$

Where,

AUX = Normative auxiliary energy consumption in percentage.

CVPF = Weighted Average Gross calorific value of coal as per Regulation 39 in kCal per kg for coal based stations;

CVSF = Calorific value of secondary fuel, in kCal per ml;

ECR = Energy charge rate, in Rupees per kWh sent out;

SHR = Gross station heat rate, in kCal per kWh;

LC = Normative limestone consumption in kg per kWh;

LPL = Weighted average landed cost of limestone in Rupees per kg;

LPPF = Weighted average landed fuel cost of primary fuel, in Rupees per kg, per litre or per standard cubic metre, as applicable, during the month. (In case of blending of fuel from different sources, the weighted average landed fuel cost of primary fuel shall be arrived in proportion to the blending ratio);

SFC = Normative Specific fuel oil consumption, in ml per kWh;

LPSFi = Weighted Average Landed Fuel Cost of Secondary Fuel in Rs./ml during the month;

( $\Delta$ ECR) = Difference between ECR with revised auxiliary energy consumption with emission control system equivalent to (AUXn + AUXen) and ECR with normative auxiliary energy consumption as specified in these Regulations;

SRC = Specific reagent consumption on account of revised emission standards (in g/kWh);

LPR = Weighted average landed price of reagent for the emission control system (in Rs./kg).

In the case of blending of fuel from different sources, the weighted average Gross calorific value of the primary fuel shall be arrived at in proportion to the blending ratio.

In case of part or full use of an alternative source of fuel supply by coal based thermal generating stations other than as agreed by the Generating Company and beneficiaries in their power purchase agreement for the supply of contracted power on account of a shortage of fuel or optimization of economical operation through blending, the use of an alternative source of fuel supply shall be permitted to generating station:

Provided that the weighted average price of alternative source of fuel shall not exceed 30% of base price of fuel computed as per clause (5) of this Regulation and in such case, prior permission from beneficiaries shall not be a pre-condition, unless otherwise agreed specifically in the power purchase agreement;

Provided further that where the energy charge rate based on weighted average price of fuel upon use of alternative source of fuel supply exceeds 30% of base

energy charge rate as approved by the Commission for that year or exceeds 20% of energy charge rate for the previous month, whichever is lower shall be considered and, in that event, prior consultation with beneficiary shall be made at least three days in advance.

- (4) Notwithstanding anything contained in Clause 3 of this Regulation, the Commission after considering the shortage of fuel, may vary through separate Order(s), the blending ratio and the requirement of beneficiary consent thereof, towards use of alternative source of fuel.
- (5) Where biomass fuel is used for blending with coal, the landed cost of biomass fuel shall be worked out based on the delivered cost of biomass at the unloading point of the generating station, inclusive of taxes and duties as applicable. The energy charge rate of the blended fuel shall be worked out considering consumption of biomass based on blending ratio as specified by Authority or actual consumption of biomass, whichever is lower.
- (6) The Commission, through specific tariff orders to be issued for each generating station shall approve the energy charge rate for each year of the tariff period. Any variation in Price and Gross Calorific Value of coal as billed by supplier (after adjusting for variation during storage) shall be adjusted on month to month basis in the bills;

Provided, that the Generating Company shall indicate Energy Charge Rates at base price of primary and secondary fuel approved by the Commission and the adjustments on account of change in price and gross calorific value of coal for the previous month separately.

#### **45. COMPUTATION AND PAYMENT OF CAPACITY CHARGE AND ENERGY CHARGE FOR HYDRO GENERATING STATIONS OTHER THAN PUMPED STORAGE HYDRO GENERATING STATIONS**

- (1) The fixed cost of a hydro generating station shall be computed on annual basis, based on norms specified under these Regulations, and recovered on monthly basis under capacity charge (inclusive of incentive) and energy charge, which shall be payable by the beneficiaries in proportion to their respective allocation in the saleable capacity of the generating station, i.e. in the capacity excluding the free power to the home State;

Provided that during the period between the date of commercial operation of the first unit of the generating station and the date of commercial operation of the generating station, the annual fixed cost shall provisionally be worked out based on the latest estimate of the completion cost for the generating station, for the purpose of determining the capacity charge and energy charge payment during such period.

- (2) The capacity charge (inclusive of incentive) payable to a hydro generating station for a calendar month shall be

$$\text{AFC} \times 0.5 \times \text{NDM} / \text{NDY} \times (\text{PAFM} / \text{NAPAF}) \text{ (in Rupees)}$$

Where,

AFC = Annual fixed cost specified for the year, in Rupees.

NAPAF = Normative plant availability factor in percentage

NDM = Number of days in the month

NDY = Number of days in the year

PAFM = Plant availability factor achieved during the month, in percentage

- (3) The PAFM shall be computed in accordance with the following formula:

$$PAFM = 10000 \times \sum_{i=1}^N DCi / \{N \times IC \times (100 - AUX)\} \%$$

Where,

AUX = Normative auxiliary energy consumption in percentage

DCi = Declared capacity (in ex-bus MW) for the i<sup>th</sup> day of the month which the station can deliver for at least three (3) hours, as certified by the SLDC after the day is over.

IC = Installed capacity (in MW) of the complete generating station

N = Number of days in the month

- (4) In addition to the AFC entitlement as computed above, the hydro generating station shall be allowed an incentive of up to 3% of the Capacity Charge approved for a given year which shall be billed monthly as per the following.

$$\text{Incentive} = (3\% \times \beta \times CCy) / 12$$

Where,

$\beta$  = Average Monthly Frequency Response Performance for that generating station, as certified by SLDC, which shall be computed by considering primary response as per the methodology prescribed by the NLDC with approval of the Commission and beta shall range between 0 to 1.

Provided that incentive shall be payable only if Beta value is higher than 0.30.

CCy = Capacity Charges for the Year.

- (5) The energy charge shall be payable by every beneficiary for the total energy scheduled to be supplied to the beneficiary, excluding free energy, if any, during the calendar month on ex-bus basis, at the computed energy charge rate. Total Energy charge payable to the Generating Company for a month shall be:



Energy Charges = (Energy charge rate in Rs. / kWh) x {Scheduled energy (ex-bus) for the month in kWh} x (100 – FEHS) / 100.

- (6) Energy charge rate (ECR) in Rupees per kWh on ex-power plant basis, for a hydro generating station, shall be determined up to three (3) decimal places based on the following formula, subject to the provisions of Clause (9) of this Regulation:

$$ECR = AFC \times 0.5 \times 10 / \{DE \times (100 - AUX) \times (100 - FEHS)\}$$

Where,

DE = Annual design energy specified for the hydro generating station, in MWh, subject to the provision in Clause (7) below.

FEHS = Free energy for home State (in percent), if any, as per Note in Regulation 53 of these Regulations.

- (7) In case the saleable scheduled energy (ex-bus) of a hydro generating station during a year is less than the saleable design energy (ex-bus) for reasons beyond the control of the generating station, the generating station may directly recover the shortfall in energy charges in six equal interest-free monthly instalments after adjusting for DSM Energy in the immediately following year and shall be subject to truing up at the end of the tariff period.

Provided that in case actual generation from a hydro generating station is less than the design energy for a continuous period of four (4) years on account of hydrology factor, the generating station shall approach the Central Electricity Authority with relevant hydrology data for revision of design energy of the station.

- (8) Any shortfall in the energy charges on account of saleable scheduled energy (ex-bus) being less than the saleable design energy (ex-bus) during the tariff period 2020-2024 which was beyond the control of the generating station and which could not be recovered during the said tariff period shall be recovered in accordance with clause (7) of this Regulation.
- (9) In case the energy charge rate (ECR) for a hydro generating station, computed as per clause (6) of this Regulation exceeds eighty paise per kWh (80p/kWh), and the actual saleable energy in a year exceeds  $\{DE \times (100 - AUX) \times (100 - FEHS) / 10000\}$  MWh, the Energy charge for the energy in excess of the above shall be billed at eighty paise per kWh (80p/kWh) only;
- (10) In addition to the above, an incentive shall be payable to a ROR Hydro generating station @ 50 paise/ kWh corresponding to the saleable scheduled energy during peak hours of the day in excess of average saleable scheduled energy during the day (24 hours).
- (11) The SLDC shall finalise the schedules for the hydro generating stations, in consultation with the beneficiaries, for optimal utilization of all the energy

declared to be available, which shall be scheduled for all beneficiaries in proportion to their respective allocations in the generating station.

- (12) The computation and payment of capacity charge and energy charge for existing plants of OHPC will be as determined by the Commission from time to time.

**46. COMPUTATION AND PAYMENT OF CAPACITY CHARGE AND ENERGY CHARGE FOR PUMPED STORAGE HYDRO GENERATING STATIONS**

- (1) The fixed cost of a pumped storage hydro generating station shall be computed on annual basis, based on norms specified under these Regulations, and recovered on monthly basis as capacity charge. The capacity charge shall be payable by the beneficiaries in proportion to their respective allocation in the saleable capacity of the generating station;

Provided that during the period between the date of commercial operation of the first unit of the generating station and the date of commercial operation of the generating station, the annual fixed cost shall be worked out provisionally based on the latest estimate of the completion cost for the generating station, for the purpose of determining the capacity charge payment during such period.

- (2) The capacity charge payable to a pumped storage hydro generating station for a calendar month shall be:

$(AFC \times NDM / NDY)$  (in Rupees);

if actual Generation during the month is  $\geq 75\%$  of the Pumping Energy consumed by the station during the month and

$\{(AFC \times NDM / NDY) \times (\text{Actual Generation during the month during peak hours} / 75\% \text{ of the Pumping Energy consumed by the station during the month})\}$  (in Rupees));

if actual Generation during the month is  $< 75\%$  of the Pumping Energy consumed by the station during the month.

Where,

AFC = Annual fixed cost specified for the year, in Rupees.

NDM = Number of days in the month

NDY = Number of days in the year

Provided that the actual generation during the month and during peak hours by a pumped storage hydro generating station shall be certified by the SLDC.

Provided that there would be adjustment at the end of the year based on actual generation and actual pumping energy consumed by the station during the year.

- (3) The energy charge shall be payable by every beneficiary for the total energy scheduled to be supplied to the beneficiary in excess of the design energy plus 75% of the energy utilized in pumping the water from the lower elevation reservoir to the higher elevation reservoir, at a flat rate equal to the average energy charge rate of twenty (20) paise per kWh, during the calendar month, on ex power plant basis.
- (4) Energy charge payable to the Generating Company for a month shall be:
- $$= 0.20 \times [\text{Scheduled energy (ex-bus) for the month in kWh} - \{\text{Design Energy for the month (DEm)}\} + 75\% \text{ of the energy utilized in pumping the water from the lower elevation reservoir to the higher elevation reservoir of the month}] / 100.$$

Where,

DEm = Design energy for the month specified for the hydro generating station, in MWh, subject to the provision below.

Provided further that in case the Scheduled energy in a month is less than the Design Energy for the month plus 75% of the energy utilized in pumping the water from the lower elevation reservoir to the higher elevation reservoir of the month, then the energy charges payable by the beneficiaries shall be zero.

Provided that if the energy for the pumping of water from lower reservoir to upper reservoir is arranged by the Generating Company, the charges for the pumping energy till the ex-Bus of the generating station shall be payable by the beneficiaries in proportion to their respective allocation in the saleable capacity of the generating station

- (5) The Generating Company shall maintain the record of daily inflows of natural water into the upper elevation reservoir and the reservoir levels of upper elevation reservoir and lower elevation reservoir on hourly basis. The generator shall be required to maximize the peak hour supplies with the available water including the natural flow of water. In case it is established that generator is deliberately or otherwise without any valid reason, is not pumping water from lower elevation reservoir to the higher elevation during off-peak period or not generating power to its potential or wasting natural flow of water, the capacity charges of the day shall not be payable by the beneficiary. For this purpose, outages of the unit(s)/station including planned outages and the forced outages up to the 15% in a year shall be construed as the valid reason for not pumping water from lower elevation reservoir to the higher elevation during off-peak period or not generating power using energy of pumped water or natural flow of water;

Provided further that the total capacity charges recovered during the year shall be adjusted on pro rata basis in the following manner in the event of total machine outages in a year exceeds 15%:

$$(\text{ACC})_{\text{adj}} = (\text{ACC}) R \times (100 - \text{ATO})/85$$

Where,

(ACC) adj – Adjusted Annual capacity Charges

(ACC) R – Annual capacity Charges recovered

ATO - Total Outages in percentage for the year including forced and planned outages

Provided further that the generating station shall be required to declare its machine availability daily on day ahead basis for all the time blocks of the day in line with the scheduling procedure of CERC(IEGC) Regulations 2023 as amended from time to time till OERC (Grid Code) Regulations, 2015 is amended.

- (6) The SLDC shall finalise the schedules for the hydro generating stations, in consultation with the beneficiaries, for optimal utilization of all the energy declared to be available, which shall be scheduled for all beneficiaries in proportion to their respective allocations in the generating station.

#### **47. DEVIATION CHARGES:**

- (1) Variations between actual net injection and scheduled net injection for the generating stations, and variations between actual net drawl and scheduled net drawl for the beneficiaries shall be treated as their respective deviations and charges for such deviations shall be governed by the Central Electricity Regulatory Commission (Deviation Settlement Mechanism and Related matters) Regulations, 2022, as amended from time to time till OERC (Deviation Settlement Mechanism & Related Matters) Regulations is notified by the Commission.
- (2) Actual net deviation of every Generating Stations and Beneficiaries shall be metered on its periphery through Special Energy Meters (SEMs) installed by the State Transmission Utility (STU), and computed in MWh for each 15-minute time block or any duration of time block, as amended from time to time, by the State Load Despatch Centre.

**CHAPTER – 7****NORMS OF OPERATION****48. RECOVERY OF TARIFF & INCENTIVE:**

- (1) Recovery of capacity charge, energy charge, supplementary capacity charge, supplementary energy charge and incentive by the Generating Company shall be based on the achievement of the operational norms specified in Regulations 49 to 50 of this Chapter.
- (2) The Commission may on its own revise the norms of Station Heat Rate specified in Regulation 49(1)(c) of this Chapter in respect of any of the generating stations for which relaxed norms have been specified.

**49. NORMS OF OPERATIONS FOR THERMAL POWER GENERATING STATIONS**

- (1) The norms of operation as given hereunder shall apply to coal based thermal generating station:
  - (a) **Normative Annual Plant Availability Factor (NAPAF)**
    - (i) The Normative Annual Plant Availability Factor for all thermal generating stations, except those covered under (ii) & (iii) below is 85%.
    - (ii) The Normative Annual Plant Availability Factor for existing Thermal Generating Stations of OPGC (UNIT-I & II) will be as determined by the Commission from time to time.
    - (iii) The Normative Annual Plant Availability Factor for all thermal generating stations which have completed 30 years from COD is 83%.
  - (b) **Normative Annual Plant Load Factor (NAPLF) for Incentive**
    - (i) NAPLF for all thermal generating stations except those covered under (ii) & (iii) below is 85%.
    - (ii) The Normative Annual Plant Load Factor for existing Thermal Generating Stations of OPGC (UNIT-I & II) will be as determined by the Commission from time to time.
    - (iii) The Normative Annual Plant Load Factor for all thermal generating stations which have completed 30 years from COD is 83%.
  - (c) **Gross Station Heat Rate**
    - (i) The Gross Station Heat Rate for all existing coal based thermal generating stations, except those covered under (ii) below is

<b>200-300 MW Sets</b>	<b>500 MW Sets (Sub-critical)</b>
2415 kCal/kWh	2375 kCal/kWh

**Note 1**

In respect of 500 MW and above units where the boiler feed pumps are electrically operated, the gross station heat rate shall be 40 kCal/kWh lower than the gross station heat rate specified above.

**Note 2**

For the generating stations having combination of 200/210/250 MW sets and 500 MW and above sets, the normative gross station heat rate shall be the weighted average gross station heat rate of the combinations.

**Note 3**

The Gross Station Heat Rate above is exclusive of the compensation specified as per CERC (IEGC) Regulations, 2023 as amended from time to time till OERC (GRID Code) Regulations, 2015, is amended. The Generating Company shall, based on the unit loading factor, consider the compensation in addition to the normative gross heat rate above.

- (ii) The Gross Station Heat Rate for existing Thermal Generating Stations of OPGC (UNIT-I & II) Ltd will be as determined by the Commission from time to time
- (iii) The Gross Station Heat Rate for all coal based thermal generating stations achieving COD on or after 01.04.2014, is to be calculated based on the following formula:

For 200 – 300 MW set =  $1.05 \times \text{Design Heat Rate (kCal/kWh)}$

For 500 MW sets & above =  $1.045 \times \text{Design Heat Rate (kCal/kWh)}$

Where the Design Heat Rate of a unit means the unit heat rate guaranteed by the supplier at conditions of 100% MCR, zero percent make up, design coal and design cooling water temperature/back pressure.

Provided that depending upon the pressure and temperature ratings of the units, the maximum design turbine cycle heat rate and minimum design boiler efficiency shall be as per the Table below:

<b>Column</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>
<b>Pressure Rating (Kg/cm<sup>2</sup>)</b>	150	170	170	247	247	260	270	270
<b>SHT/RHT (°C)</b>	535/535	537/537	537/565	537/565	565/593	593/593	593/593	600/600

Type of BFP	Electrical Driven	Turbine driven	Turbine driven	Turbine driven	Turbine driven	Turbine driven	Turbine driven	Turbine driven
Max Turbine Cycle Heat rate (kCal/kWh)	1955	1950	1935	1900	1850	1814	1810	1790
<b>Min. Boiler Efficiency (%)</b>								
Sub-Bituminous Indian Coal (%)	86	86	86	86	86	86	86.5	86.5
Bituminous Imported Coal (%)	89	89	89	89	89	89.5	89.5	89.5

In case designed turbine cycle heat rate and boiler efficiency are better than these values, the same shall be considered for calculation of design unit heat rate.

Provided further that in case pressure and temperature parameters of a unit are different from above ratings, the maximum design unit heat rate of the nearest class shall be taken;

Provided also that where heat rate of the unit has not been guaranteed but turbine cycle heat rate and boiler efficiency are guaranteed separately by the same supplier or different suppliers, the unit design heat rate shall be arrived at by using guaranteed turbine cycle heat rate and boiler efficiency;

Provided also that where the boiler efficiency is lower than 86% for Sub-bituminous Indian coal and 89% for bituminous imported coal, the same shall be considered as 86% and 89% for Sub-bituminous Indian coal and bituminous imported coal, respectively, for computation of station heat rate:

Provided units based on a dry cooling system, the maximum turbine cycle heat rate shall be considered as per the actual design or 6% higher than the values given in the table above, whichever is lower;

Provided also that in case of coal based generating station, if one or more units were declared under commercial operation prior to 01.04.2024, the heat rate norms for those units as well as units declared under commercial operation on or after 01.04.2024 shall be lowest of the heat rate norms considered by the Commission during tariff period 2020-24 or those arrived at by above methodology or the norms as per the Regulation 49(1)(c)(i) of this Regulation;

**Note:** In respect of units where the boiler feed pumps are electrically operated, the maximum design unit heat rate shall be 40 kCal/kWh lower than the maximum design unit heat rate specified above with turbine driven Boiler Feed Pump.

**(d) Secondary fuel oil consumption**

- (i) The secondary fuel oil consumption for all existing coal based thermal generating stations with wall (front/rear/sides/fixed boilers) who have achieved CoD before 01.04.2014 except as mentioned (iii) below is 1 ml/kWh.
- (ii) The Secondary fuel oil consumption for all coal based thermal generating stations, who have achieved CoD on or after 01.04.2014 is 0.50 ml/kWh.
- (iii) The Secondary fuel oil consumption for existing Thermal Generating Stations of OPGC (Unit - I & II) Ltd. will be as determined by the Commission from time to time.

**(e) Auxiliary Energy Consumption**

- (i) The Auxiliary Energy Consumption for all coal based thermal generating stations is

Sl. No.	Generating Station	With Natural Draft cooling tower or without cooling tower
(i)	200 MW – 300 MW series	8.5%
(ii)	<b>500 MW &amp; above series</b>	
	Steam driven boiler feed pumps	5.25%
	Electrically driven boiler feed pumps	8.00%
(iii)	600 MW and above	
	Steam driven boiler feed pumps	5.25%
	Electrically driven boiler feed pumps	8.00%

Provided that for thermal generating stations with induced draft cooling towers and where tube type coal mill is used, the norms shall be further increased by 0.5% and 0.8% respectively:

Provided further that Additional Auxiliary Energy Consumption as follows shall be allowed for plants with Dry Cooling Systems:

Type of Dry Cooling System	(% of gross generation)
Direct cooling air cooled condensers with mechanical draft fans	1.0 %
Indirect cooling system employing jet condensers with pressure recovery turbine and natural draft tower	0.5 %



**Note:** The auxiliary energy consumption for the unit capacity of less than 200 MW sets shall be dealt on case to case basis.

- (ii) The Auxiliary Energy Consumption for existing Thermal Generating Stations of OPGC (Unit - I & II) Ltd will be as determined by the Commission from time to time.

**(f) Norms of Auxiliary energy consumption for the emission control system (AUX<sub>en</sub>) of thermal generating stations:**

Name of Technology	AUX <sub>en</sub> (as % of gross generation)
(1) For reduction of emission of Sulphur dioxide:	
a) Wet Limestone based FGD system (without Gas to Gas heater)	1.0%
b) Lime Spray Dryer or Semi dry FGD System	1.0%
c) Dry Sorbent Injection System (using Sodium bicarbonate)	NIL
d) For CFBC Power plant (furnace injection)	NIL
e) Sea water based FGD system (without Gas to Gas heater)	1.00%
(2) For reduction of emission of oxide of nitrogen:	
a) Selective Non-Catalytic Reduction system	NIL
b) Selective Catalytic Reduction system	0.2%

Provided that where the technology is installed with a "Gas to Gas" heater, AUX<sub>en</sub> specified above shall be increased by 0.20% of gross generation.

**(g) Norms for consumption of reagent:**

- (1) The normative consumption of specific reagents for various technologies for the reduction of emission of sulphur dioxide shall be as under:

- (a) For Wet Limestone based Flue Gas De-sulphurisation (FGD) system:  
The specific limestone consumption (g/kWh) shall be worked out by following the formula:

$$[K \times \text{Normative heat rate (kcal/kWh)} \times \text{Sulphur content of coal (\%)/CVPF in kCal/Kg}] \times [85/\text{LP}] \text{g/kWh}$$

Where,

GCV = Weighted Average Gross calorific value of coal in kCal per kg for coal based thermal generating stations computed in accordance with Regulation 39 of these Regulations;

Provided that the value of K shall be equivalent to  $(35.2 \times \text{Design SO}_2 \text{ Removal Efficiency}/96\%)$  to comply with the SO<sub>2</sub> emission norm of 100/200 mg/Nm<sup>3</sup> or  $(26.8 \times \text{Design SO}_2 \text{ Removal Efficiency}/73\%)$  for units to comply with the SO<sub>2</sub> emission norm of 600 mg/Nm<sup>3</sup>;

Provided further that the limestone purity shall not be less than 85%.

- (b) For Lime Spray Dryer or Semi-dry Flue Gas Desulphurisation (FGD) system: The specific lime consumption shall be worked out based on minimum purity of lime (LP) as at 90% or more by applying formula  $[6 \times 90/\text{LP}]$  g/kWh;
- (c) For Dry Sorbent Injection System (using sodium bicarbonate): The specific consumption of sodium bicarbonate shall be 12 g per kWh at 100% purity.
- (d) For CFBC Technology (furnace injection) based generating station: The specific limestone consumption for CFBC based generating station (furnace injection) shall be computed with the following formula.

$$[62.9 \times S \times \text{SHR}/\text{CVPF}] \times [85/\text{LP}]$$

Where,

S = Sulphur content in percentage,

LP = Limestone Purity in percentage,

SHR = Gross station heat rate, in kCal per kWh,

CVPF = Weighted Average Gross calorific value of lignite as received, in kCal per kg as applicable for lignite based thermal generating stations;

- (e) For Sea Water based Flue Gas Desulphurisation (FGD) system: The reagent used in sea water based Flue Gas Desulphurisation (FGD) system shall be NIL.
- (2) The normative consumption of specific reagent for various technologies for the reduction of emission of oxide of nitrogen shall be as below:
- (a) For Selective Non-Catalytic Reduction (SNCR) System: The specific urea consumption of the SNCR system shall be 1.2 g per kWh at 100% purity of urea.

- (b) For Selective Catalytic Reduction (SCR) System: The specific ammonia consumption of the SCR system shall be 0.6 g per kWh at 100% purity of ammonia.

## **50. NORMS OF OPERATION FOR HYDRO GENERATING STATION**

The norms of operation as given hereunder shall apply to hydro generating stations:

- (a) Normative annual plant availability factor (NAPAF) for hydro generating stations:
  - (i) Storage and Pondage type plants with head variation between Full Reservoir Level (FRL) and Minimum Draw Down Level (MDDL) of up to 8%, and where plant availability is not affected by silt - 90%;
  - (ii) Storage and Pondage type plants with head variation between FRL and MDDL of more than 8%, where plant availability is not affected by silt: the month wise peaking capability as provided by the project authorities in the DPR (approved by CEA or the State Government) shall form basis of fixation of NAPAF;
  - (iii) Pondage type plants where plant availability is significantly affected by silt - 85%;
  - (iv) Run-of-river type plants: NAPAF to be determined plant-wise, based on 10-day design energy data, moderated by past experience where available/relevant.
- (b) A further allowance may be made by the Commission in NAPAF determination under special circumstances, e.g. abnormal silt problem or other operating conditions, and known plant limitations.
- (c) The Normative Annual Plant Availability Factor (NAPAF) for existing Hydro Generating Stations of OHPC Ltd will be as determined by the Commission from time to time.
- (d) In the case of pumped storage hydro generating stations, the quantum of electricity required for pumping water from the down-stream reservoir to the up-stream reservoir shall be arranged by the beneficiaries duly taking into account the transmission and distribution losses up to the bus bar of the generating station. In return, beneficiaries shall be entitled to an equivalent energy of 75% of the energy utilized in pumping the water from the lower elevation reservoir to the higher elevation reservoir from the generating station during peak hours, and the generating station shall be under obligation to supply such quantum of electricity during peak hours:

Provided that in the event of the beneficiaries failing to supply the desired level of energy during off-peak hours, there will be a pro-rata reduction in their energy entitlement from the station during peak hours:

Provided further that the beneficiaries may assign or surrender their share of capacity in the generating station, in part or in full, or the capacity may be reallocated by the Central Government, and in that event, the owner or assignee of the capacity share shall be responsible for arranging the equivalent energy to the generating station in off-peak hours, and be entitled to corresponding energy during peak hours in the same way as the original beneficiary was entitled.

(e) Auxiliary Energy Consumption (AEC) for Hydro generating stations:

Type of Hydro Generating Station	AEC	
	Installed Capacity above 200MW	Installed Capacity upto 200MW
<b>Surface hydro generating stations</b>		
Rotating Excitation System (Mounted on generator shaft)	0.7%	0.7%
Static Excitation System	1.0%	1.2%
<b>Underground hydro generating stations</b>		
Rotating Excitation System (Mounted on generator shaft)	0.9%	0.9%
Static Excitation System	1.2%	1.3%

**CHAPTER – 8****SCHEDULING, ACCOUNTING AND BILLING****51. SCHEDULING**

The methodology for scheduling and dispatch for the generating station shall be as specified in the Grid Code.

**52. METERING AND ACCOUNTING**

The provisions of the Grid Code shall be applicable for the purpose of metering and accounting.

**53. BILLING AND PAYMENT OF CHARGES**

- (1) Bills shall be raised by the Generating Company for capacity charge, energy charge and Incentive on monthly basis and payments shall be made by the beneficiaries directly to the Generating Company, subject to adjustments at the end of the year.
- (2) Payment of the capacity charge for a thermal generating station shall be shared by the beneficiaries of the generating station as per their percentage shares for the month (inclusive of any allocation out of the unallocated capacity) in the installed capacity of the generating station.
- (3) Payment of capacity charge and energy charge for a hydro generating station shall be shared by the beneficiaries of the generating station in proportion to their shares (inclusive of any allocation out of the unallocated capacity) in the saleable capacity (to be determined after deducting the capacity corresponding to free energy to home State as per Note herein).

**Note:**

Free energy for home State, in percent and shall be taken as notified by the Commission from time to time

**54. RECOVERY OF STATUTORY CHARGES:**

The Generating Company shall recover the statutory charges imposed by the State and Central Government such as electricity duty, water cess & charges by considering normative parameters specified in these Regulations. In case of the electricity duty is applied on the auxiliary energy consumption, such amount of electricity duty shall apply on normative auxiliary energy consumption of the generating station (excluding colony consumption) and apportioned to each of the beneficiaries in proportion to their schedule dispatch during the month.

**55. LATE PAYMENT SURCHARGE (LPS)**

In case the payment of any bill for charges payable under these Regulations is delayed by a beneficiary beyond a period of forty five (45) days from the date of receipt of the bill, a late payment surcharge at the rate of 1.25% per month shall be levied by the Generating Company.

Provided that in case a different LPS mechanism is provided in the PPA, the same shall be governed by the provisions of the PPA.

**56. REBATE**

- (1) For payment of the bill(s) of the Generating Company through Letter of Credit on presentation or through National Electronic Funds Transfer (NEFT)/ Real Time Gross Settlement (RTGS) within a period of 2 working days of presentation of bills by the Generating Company, a rebate of 2% shall be allowed.
- (2) Where payments are made on any day after two (2) working days and within a period of five (5) working days of presentation of bills by the Generating Company, a rebate of 1.5% shall be allowed.
- (3) Where payments are made on any day after five (5) working days and within a period of thirty (30) days of presentation of bills by the Generating Company, a rebate of 1% shall be allowed.

## CHAPTER – 9

### SHARING OF BENEFITS

#### 57. SHARING OF GAINS DUE TO VARIATION IN NORMS

- (1) The Generating Company shall workout gains based on the actual performance of applicable Controllable parameters as under:
  - (i) Station Heat Rate;
  - (ii) Secondary Fuel Oil Consumption; and
  - (iii) Auxiliary Energy Consumption.
- (2) The financial gains by the Generating Company on account of controllable parameters shall be shared between Generating Company and the beneficiaries on annual basis. The financial gains computed as per the following formulae in case of generating station other than hydro generating stations on account of operational parameters as shown in Clause (1) of this Regulation shall be shared in the ratio of 50:50 between the generating stations and beneficiaries.

$$\text{Net Gain} = (\text{ECR}_N - \text{ECR}_A) \times \text{Scheduled Generation}$$

Where,

$\text{ECR}_N$  = Normative Energy Charge Rate computed on the basis of norms specified for Station Heat Rate, Auxiliary Energy Consumption and Secondary Fuel Oil consumption.

$\text{ECR}_A$  = Actual Energy Charge Rate computed on the basis of actual Station Heat Rate, Auxiliary Energy Consumption and Secondary Fuel Oil Consumption for the month.

Provided that in case of hydro generating stations, the net gain on account of Actual Auxiliary Energy Consumption being less than the Normative Auxiliary Energy Consumption, shall be computed as per following formulae provided the saleable scheduled generation is more than the saleable design energy and shall be shared in the ratio of 50:50 between generating station and beneficiaries.:

- (i) When saleable scheduled generation is more than saleable design energy on the basis of normative auxiliary energy consumption and less than or equal to saleable design energy on the basis of actual auxiliary energy consumption:

$$\text{Net gain (Million Rupees)} = [(\text{Saleable Scheduled generation in MUs}) - (\text{Saleable Design energy on the basis of normative auxiliary energy consumption in MUs})] \times [1.30 \text{ or ECR, whichever is lower}]$$

- (ii) When saleable scheduled generation is more than saleable design energy on the basis of actual auxiliary energy consumption:

Net gain (Million Rupees)= [Saleable Scheduled generation in MUs- {(Saleable Scheduled Generation in MUs x (100-normative AEC in %)/(100- actual AEC in %))}x [1.30 or ECR, whichever is lower]

**58. SHARING OF SAVING IN INTEREST DUE TO RE-FINANCING OR RESTRUCTURING OF LOAN:**

- (1) The Generating Company shall make every effort to re-finance the loan as long as it results in net savings on interest and in that event the costs associated with such refinancing shall be borne by the beneficiaries and the net savings shall be shared between the beneficiaries and the Generating Company, in the ratio of 50:50.
- (2) In case of dispute, any of the parties may make an application in accordance with the Odisha Electricity Regulatory Commission (Conduct of Business) Regulations, 2004 as amended from time to time, for settlement of the dispute:

Provided that the beneficiaries shall not withhold any payment on account of the interest claimed by the Generating Company during the pendency of any dispute arising out of re-financing of loan

- 59.** Sharing of net gains of Generating Company with the beneficiary (ies) due to supply of power from alternate source shall be in the ratio of 50:50. In case of existing plants of OPGC (UNIT-I & II) and OHPC sharing of net gains will be as determined by the commission based on prudence check considering the information/ data submitted by the Generating Company.

**60. SHARING OF NON-TARIFF INCOME**

The details of Non-Tariff income in case of generating station as listed in Regulation 35(2) shall be furnished by the Generating Company at the time of Tariff filling. The net Non-Tariff Income excluding Income from Investments shall be shared between the beneficiaries and the Generating Company, in the ratio 50:50.

**61. SHARING OF CLEAN DEVELOPMENT MECHANISM (CDM) BENEFITS**

The proceeds of carbon credit from approved emission reduction project under CDM shall be shared in the following manner:

- (a) 100% of the gross proceeds on account of CDM to be retained by the project developer in the first year after the date of commercial operation of the generating station
- (b) In the second year, the share of the beneficiaries shall be 10% which shall be progressively increased by 10% every year till it reaches 50%, where after the proceeds shall be shared in equal proportion, by the Generating Company, and the beneficiaries.



**CHAPTER – 10****MISCELLANEOUS PROVISIONS****62. OPERATIONAL NORMS TO BE CEILING NORMS**

Norms of operation specified in these Regulations are the ceiling norms and shall not preclude the Generating Company and the beneficiaries from agreeing to the improved norms of operation and in case the improved norms are agreed to, such improved norms shall be applicable for determination of tariff.

**63. DEVIATION FROM CEILING TARIFF**

- (1) The tariff determined in these Regulations shall be a ceiling tariff. The Generating Company and the beneficiaries may mutually agree to charge a lower tariff.
- (2) The Generating Company may opt to charge a lower tariff for a period not exceeding the validity of these Regulations on agreeing to deviation from operational parameters, reduction in operation and maintenance expenses, reduced return on equity and incentive specified in these Regulations.
- (3) If the Generating Company opts to charge a lower tariff for a period not exceeding the validity of these Regulations on account of lower depreciation based on the requirement of repayment in such case the unrecovered depreciation on account of reduction of depreciation by the Generating Company during useful life shall be allowed to be recovered after the useful life in these Regulations.
- (4) The deviation from the ceiling tariff specified by the Commission shall come into effect from the date agreed to by the Generating Company and the beneficiaries.
- (5) The Generating Company and the beneficiaries of a generating station shall be required to approach the Commission for charging lower tariff in accordance with clauses (1) to (3) above. The details of the accounts and the tariff actually charged under clauses (1) to (3) shall be submitted at the time of true up.
- (6) Where a Generating Company and its beneficiaries have mutually agreed to charge a lower tariff in respect of a particular generating station in terms of Clauses (1) to (3) of this Regulation, the said agreed tariff shall not be revised upwards at the time of truing up based on the capital cost and additional capital expenditures in accordance with these Regulations:

Provided that where the trued up tariff is lower than the agreed tariff, the Generating Company shall charge such trued-up tariff only:

Provided further that the difference between the agreed tariff and the trued-up tariff shall be settled between the parties as per Regulation 12 of these regulations.

#### **64. HEDGING OF FOREIGN EXCHANGE RATE VARIATION**

- (1) The Generating Company may hedge foreign exchange exposure in respect of the interest on foreign currency loan and repayment of foreign currency loan taken for the generating station, in part or full at the discretion of the Generating Company.
- (2) Every Generating Company shall recover the cost of hedging of foreign exchange rate variation corresponding to the normative foreign debt, in the relevant year on year-to-year basis as expense in the period in which it arises and extra rupee liability corresponding to such foreign exchange rate variation shall not be allowed against the hedged foreign debt.
- (3) To the extent the Generating Company is not able to hedge the foreign exchange exposure, the extra rupee liability towards interest payment and loan repayment corresponding to the normative foreign currency loan in the relevant year shall be permissible provided it is not attributable to the Generating Company or its suppliers or contractors.

#### **65. RECOVERY OF COST OF HEDGING FOREIGN EXCHANGE RATE VARIATION**

- (1) Every Generating Company shall recover the cost of hedging and foreign exchange rate variation on year-to-year basis as income or expense in the period in which it arises
- (2) Recovery of cost of hedging and foreign exchange rate variation shall be made directly by the Generating Company, from the beneficiaries, without making any application before the Commission:

Provided that in case of any objections by the beneficiaries to the amounts claimed on account of cost of hedging or foreign exchange rate variation, the Generating Company, may make an appropriate application before the Commission for its decision.

#### **66. APPLICATION FEE AND THE PUBLICATION EXPENSES**

The application filing fee and the expenses incurred on publication of notices in the application for approval of tariff, may in the discretion of the Commission, be allowed to be recovered by the Generating Company, directly from the beneficiaries.

#### **67. REIMBURSEMENT OF FEES, CHARGES AND EXPENSES**

- (1) Fees and charges paid by the generating companies under the prevailing Regulation/ Notification on Fees for filing of petitions or applications before the Commission, as amended from time to time, shall be reimbursed directly by the beneficiaries in proportion of their allocation in the generating stations.
- (2) The Generating Company shall be entitled to recover the fees and charges as mentioned in this Regulation which have been paid till the notification of these Regulations.

- (3) The Commission may for the reasons to be recorded in writing and after hearing the affected parties, allow reimbursement of any fee or expenses as may be considered necessary.

#### **68. PUBLIC PROCUREMENT THROUGH COMPETITIVE BIDDING:**

The Generating Company for a specific generating station shall procure equipment, work and services through a transparent process of competitive bidding.

Provided that under certain exceptional circumstances, equipment, works and services may be procured through other methods, as provided under general financial rules issued by the Government of India and applicable from time to time.

#### **69. POWER TO RELAX**

The Commission, for reasons to be recorded in writing, may relax any of the provisions of these Regulations on its own motion or on an application made before it by an interested person.

#### **70. POWER TO REMOVE DIFFICULTY**

If any difficulty arises in giving effect to the provisions of these Regulations, the Commission may, by order, make such provision not inconsistent with the provisions of the Act or provisions of other Regulations specified by the Commission, as may appear to be necessary for removing the difficulty in giving effect to the objectives of these Regulations.

#### **71. POWER TO GIVE DIRECTIONS OR ISSUE OF SUO-MOTO ORDERS**

The Commission may, from time to time, issue such directions and orders, as considered appropriate, for effective implementation of these Regulations.

#### **72. POWER TO AMEND**

The Commission, for reasons to be recorded in writing, may at any time vary, alter or modify any of the provisions of these Regulations by an amendment.

#### **73. INTERPRETATION**

If a question arises relating to the interpretation of any provision of these Regulations, the decision of the Commission shall be final.

By Order of the Commission

**Dr. PRIYABRATA PATNAIK**  
**SECRETARY**

### Appendix-A Depreciation Schedule

Sl. No.	Asset Particulars	Depreciation Rate: SLM (Salvage value =10%) [for Existing Projects]	Depreciation Rate: SLM (Salvage value =10%) [for New Projects]
A.	Land under full ownership	0%	0%
B.	Land under lease		
a	for investment in the land	3.34%	3.34%
b	For cost of clearing the site	3.34%	3.34%
c	Land for reservoir in case of hydro generating station	3.34%	3.34%
C.	Assets purchased new		
a	Pl & Machinery in generating stations		
(i)	Hydro electric	5.28%	4.22%
(ii)	Steam electric NHRB & waste heat recovery boilers	5.28%	4.22%
(iii)	Diesel electric and gas plant	5.28%	4.22%
b	Cooling towers & circulating water systems	5.28%	4.22%
c	Hydraulic works forming part of the Hydro-generating stations		
(i)	Dams, Spillways, Weirs, Canals, Reinforced concrete flumes and syphons	5.28%	4.22%
(ii)	Reinforced concrete pipelines and surge tanks, steel pipelines, sluice gates, steel surge tanks, hydraulic control valves and hydraulic works	5.28%	4.22%
d	Building & Civil Engineering works		
(i)	Offices and showrooms	3.34%	3.34%
(ii)	Containing thermo-electric generating plant	3.34%	3.34%
(iii)	Containing hydro-electric generating plant	3.34%	3.34%
(iv)	Temporary erections such as wooden structures	100.00%	100.00%
(v)	Roads other than Kutcha roads	3.34%	3.34%
(vi)	Others	3.34%	3.34%
e	Transformers, Kiosk, sub-station equipment & other fixed apparatus (including plant)		
(i)	Transformers including foundations having rating of 100 KVA and over	5.28%	4.22%
(ii)	Others	5.28%	4.22%
f	Switchgear including cable connections	5.28%	4.22%
g	Lightning arrestor		4.22%
(i)	Station type	5.28%	4.22%
(ii)	Pole type	5.28%	4.22%
h	Synchronous condenser	5.28%	4.22%
i	Batteries	9.5%	9.5%

J	Underground cable including joint boxes and disconnected boxes	5.28%	4.22%
k	Cable Duct system	5.28%	4.22%
l	Overhead lines including cable support		
(i)	Lines on fabricated steel operating at terminal voltages higher than 66 KV	5.28%	4.22%
(ii)	Lines on steel supports operating at terminal voltages higher than 13.2 KV but not exceeding 66 KV	5.28%	4.22%
(iii)	Lines on steel on reinforced concrete support	5.28%	4.22%
(iv)	Lines on treated wood support	5.28%	4.22%
m	Meters	5.28%	4.22%
n	Self propelled vehicles	9.50%	9.50%
o	Air Conditioning Plants		
(i)	Static	5.28 %	4.22%
(ii)	Portable	9.50%	9.50%
p(i)	Office furniture and furnishing	6.33%	6.33%
(ii)	Office equipment	6.33%	6.33%
(iii)	Internal wiring including fittings and apparatus	6.33%	6.33%
(iv)	Street Light fittings	5.28 %	4.22%
q	Apparatus let on hire		
(i)	Other than motors	9.50%	9.50%
(ii)	Motors	6.33%	6.33%
r	Communication equipment		
(i)	Radio and high frequency carrier system	15 %	15 %
(ii)	Telephone lines and telephones	15 %	15 %
(iii)	Fibre Optic/OPGW	6.33%	6.33%
s	I.T. equipments including software, UNMS, URTDSM, EMS, Cyber security system, REMC, WAMS, SCADA system	15.00%	15.00%
t	Any other assets not covered above	5.28%	4.22%

**Note:** Where the life of the particular asset is less than the useful life of the project, the useful life of such particular asset shall be considered as per the provisions of the Companies Act, 2013 and subsequent amendment thereto.